

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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August.

"Here then each worm, each caterpillar place;
His son, gay upstart, blushing at his race;
Insects of every rank, of every dye,
That dwell in marshes or in flow'rets lie;
Or those that, digging for a secret dome,
Deep in the budding leaf have fixed their home;
The fruit-trees' foe, or worm more murderous still,
Whose living foes the human bosom fill;
The spider too whose webs our walls o'erspread;
The fly that builds, or spins the fine drawn thread;
Those in whose golden web their tomb is wove;
Those that in secret, light the torch of love;
The fly, whose life throughout the year extends,
Or given at morning, with the evening ends."

"DELILLE'S COUNTRY GENTLEMAN."

The dog star rages, and every living thing swelters in the Summer heat. Cattle seek the shade, or plunging into the cooling stream, stand knee deep in the water, brushing their sides with moistened tails. Thus they hold the clouds of mosquitoes and flies at bay, and guard themselves against their tormentors. Swine roll lazily in the mud, coating every bristle with the thick ooze, and smothering another race of insects quite as terrible to them. Fowls lie leisurely in the shade, throwing dust over every feather, and

shaking it down over every part of the skin. Ducks and geese sit upon the river's brink, industriously rubbing their oily bills over every part of the body, making the feathers proof against the eggs of insects, as well as against rain. Every animal and plant has its parasite, and the parasitic races and all the tribes of insects are now in their prime. Life would be too dull in these hot calm Summer days, were it not for these minute creatures filling the air with the hum of their varied music.

The meadows are mainly stripped of the burden of grass that covered them a few days ago, and you notice the traces of the mower and the width of his swath. He has uncovered the homes of myriads of insects quite as beautiful, quite as full of the wisdom and goodness of the Creator, as the grasses and flowers that flourished above them. Now the air is pierced with the shrill note of the locust, and now the song of the grasshopper and the chirp of the cricket fall on the ear. They swarm in countless multitudes among the stubble, and every advancing step drives a fugitive host before you.

We complain of the insects as enemies, and in their present number, and our own want of skill, they are among the most formidable obstacles with which the husbandman has to contend. The arrangements of Nature have been interfered with in the advance of civilization, and the harmony once existing between insects and other tribes of living things, has been destroyed. But even the most destructive of these races has its use, and the world could not get on without its labors. We need to direct these labors rather than to exterminate the laborers. If man did not interfere with the arrangements of Providence, they would all be kept in harmonious balance, and every tribe of living things would be seen to accomplish more of good than of evil in its labors. Man has disturbed this balance in various ways. The trees and shrubs which were designed as the food of insects have been cleared away in the march of civilization, so that not a tenth part of the original pasture ground of the insect tribes is left in the older States. Forests have been cut down, and swamps drained, and the tiny inhabitants that once sung and sported in the unbroken wilderness, are forced to seek their living in grain fields and meadows. At the same time, the natural enemies of the insects, which were designed to keep them in check, have been almost exterminated. The wild animals that derived a large part of their subsistence from insects, have mainly disappeared with the forests. The birds also, which are our best safeguard against their undue multiplication, are considered lawful game by every vagabond that can carry a gun, and by every cat that ought to catch mice and rats.

We have, too, not only the insects native to our forests, but those of other lands introduced by commerce. These have come in grain sacks,

sometimes in straw, or again in seeds, and upon plants brought hither for cultivation. Providence has furnished abundant checks to the multiplication of these creatures, and we have only to study their habits, to learn how to keep them within due bounds.

As yet, the science of entomology has had but few admirers in this country. There are very few who have had the time and patience to follow these creatures through their various changes, to study the times and methods of their reproduction, and the best means of circumventing them. There is beginning to be felt, however, a need of this knowledge as indicated in the numerous inquiries in our agricultural and horticultural journals. Close observers upon the farm are learning how to save the cereals from their depredations, and pomologists are publishing their remedies for the ravages of insects among their fruits. There is great need of a wider range of observation, and a larger class of students who shall closely investigate the habits of these insect tribes. This is a work in which our young readers, especially the boys, might engage with great profit to themselves, and with a fair prospect of usefulness to the community.

A cabinet of specimens is indispensable to the prosecution of the study of entomology, and these every student might gradually gather for himself. If, for instance, we had a few eggs of the silk worm, a well grown specimen as he feeds upon the leaves of the mulberry, a cocoon upon the branch where it was spun, and a pair of millers, we should have before us, at a glance, a pretty correct view of this insect. Every worm, bug, and butterfly, with which we come in daily contact, has a similar history worthy of our investigation. It would not take a very large cabinet to make us familiar with those which prey most upon our labors. Specimens of insects are much more easily preserved, than those of birds and the larger animals; and the expense for the material of preserving them, would be within the reach of most farmers' sons. The habits of careful observation fostered by such a study, would be invaluable to the boy, whatever might be his future calling.

One of the best methods of keeping insects in check upon the meadow, and which is appropriate to the season, is liberal top-dressing with compost or stable manure. As soon after the mowing as is convenient, compost is spread at the rate of twenty loads or more to the acre. Those who adopt this course, give as their reasons, that ammonia is offensive to insects, and they are much less liable to deposit their eggs in a recently manured meadow than in a clean stubble; and that the manure makes stouter plants and more of them, so that the traces of the eating of worms are seldom seen in rich meadows. Facts generally prove the theory.

Others have great faith in the plow as a de-

stroyer of grubs. All their lands destined for hoed crops are plowed late in the Fall and the burrows of a multitude of insects and their eggs, are thus turned up to the Winter frosts. But the most efficient helpers in this warfare are the birds. Some of them find their principal food in bugs and worms, and were they protected by the farmer, and allowed to multiply, they would guard his crops effectually from insect ravages. They should be welcomed to his orchards and meadows, and copses of evergreens be planted to shelter them, where they have not sufficient protection. They soon learn their friends, and congregate in the places where no robber molests, and no gun makes them afraid.

Calendar of Operations for Aug., 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by allowing for latitude.]

Explanations.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters (*ff*, or *mm*, or *ll*) gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The first work of the month in this latitude will be to secure the remainder of the hay and grain crops, if any are yet uncut. Each day's delay after these have attained their proper degree of ripeness, causes loss in quality and quantity, by the shelling and waste of the grain, and the hardening of the fiber of grass. The interval between harvesting and preparing for Fall sowing, affords a favorable opportunity for draining, *drawing out muck*, clearing up hedge-rows, repairing buildings, mending roads, and other miscellaneous work which has been deferred because of other pressing operations. Now is the time to purchase additional stock for Fall feeding and fattening, if there be not enough on the farm to profitably use up the grass, grain and fodder produced. It is usually more profitable to consume raw products upon the farm, than to sell them as they come from the field. The manure, if properly cared for, will keep the land from deteriorating, and grain is more readily transported and as readily sold in the form of beef, mutton and pork.

Barns and Sheds need ample ventilation after being filled with hay and grain. Leave the large doors open in fine weather. Keep the fowls from laying upon the hay, or trespassing on the grain mows. Thresh and clean all scatterings. Examine the roofs for leaks, and repair if necessary. Painting is better deferred until cooler weather.

Butter—Observe directions given last month. Where a large quantity is sent to market, it would pay to cool it well in the ice house and pack the tubs or pails in large boxes, and surround them with fresh cut grass, which would preserve the butter from softening by the heat.

Cattle—It is poor economy to keep young stock or those intended for Fall fattening upon short pastures. Plenty of grass now will be a saving of grain hereafter. Milch cows also need generous fare: feed them from the soiling patch, if one was sown—or if necessary, allow a daily treat of bran or shorts mixed with water and partly fermented.

Corn—The roots should not be disturbed now by plowing. If weeds are troublesome, pull them by hand, or hoe the surface lightly. Authorities are divided as to the propriety of removing the suckers. It would seem that the grain would be better if the strength of the plant were directed there by removing superfluous growth of stalks. Experiments are needed to determine the truth in the matter.

Draining—Read the articles now in course of publication, and reduce to practice what may be applicable to your circumstances.

Fallows or "Summer Fallows" should not be allowed to grow and ripen weeds whose seeds will be scattered in the soil. The harrow will generally destroy those growing, but a few will still be left, unless pulled or cut by hand. Remember that weeds produce seeds by the thousand each.

Fences—Remove all hedge-rows of briars, bushes and weeds. Lay new lines of wall where needed. Keep all in good repair.

Gleaning—Many bushels of grain will be saved by passing over fields with the horse-rake after the grain is gathered.

Grain—Thresh as early as can be done conveniently; commence with the stacks. It is usually better to sell as soon as the market is fairly fixed. Use all that can be turned to account in fattening stock.

Hay—Cut, *ff*, any remaining until now. Gather coarse wild grasses for bedding. Secure salt marsh hay and sedge, *m, l*, during the low tides of August, and remove to safe quarters. Surround stacks with good fences to keep cattle from wasting.

Horses—Confine them in well ventilated stables during the heat of the day, and turn them in the pasture on warm nights. Breeding mares should not be overheated while suckling their foals. Accustom colts to be handled while young.

Insurance—Keep barns and other out-buildings insured, as well as the dwelling. Large accumulations of hay or grain send up a column of vapor which attracts lightning and exposes them to be destroyed, unless protected by lightning rods.

Manure—Read the article on Muck, page 234. Turn every source for making manure to account. Mow swales, gather roadside weeds, burn brush heaps, clear out privies, sinks, and sheds, etc., and have a large supply in readiness before fall plowing commences.

Meadows—Remove bushes, rocks, and other obstructions from mowing lands. Top dress new mown lands with fine compost, to protect the roots from scorching, and quicken the young growth. Keep stock from meadows until the grass is three or four inches high, and do not allow it to be eaten off very close.

Millet or Hungarian Grass—Cut before the seed ripens, if intended for hay.

Oats—Cut, *ff*, or as soon as sufficiently ripe. Cure the straw carefully: it is valuable for feeding.

Pastures—Occasionally scatter cattle droppings with a maul. Mow weeds frequently, allow none to ripen seed. Sow salt about their roots, to attract the cattle and sheep, and prevent the young shoots springing up. Suffer no fields to be fed too closely.

Potatoes—Early sorts may be harvested as soon as mature, and a crop of quick growing turnips or late cabbages put in their place.

Poultry—Allow them to glean the grain fields after harvest. If confined to the yard, give plenty of water and occasionally a little animal food, to stimulate them to lay. Fatten chickens and ducks for market early; it takes less grain in warm weather, and the prices are more remunerative.

Root Crops—Thin turnips sown last month. Keep the ground light and free from weeds by frequent use of the cultivator and hoe.

Rye—Harvest, *ff*, any remaining. Glean the fields with the horse rake, and thresh out the scatterings for grinding and feeding to hogs. Select the best growth for seed, and thresh with a flail before wanted for sowing.

Sheep—Separate males from the ewes and give the lambs a rich pasture by themselves or with the yearlings. Keep a few older sheep with them as leaders of the flock. Examine the udders of ewes while weaning their lambs, and draw the milk occasionally if necessary to prevent their becoming caked. Salt freely, and apply tar to their noses to repel the fly.

Swine—Keep them growing by liberal feeding. Commence fattening, *ll*. Early pork is usually in demand, and it costs less to make it. Feed with green food frequently. Unthreshed pea vines are well relished, and are wholesome diet.

Timber cut at this season is believed to be most durable. Prepare any needed for fencing or building next season.

Timothy sown by itself, *ll*, will ordinarily give a good growth next season. If sown with Winter grain, leave it until next month or the following Spring. Use from eight to twelve quarts of seed per acre, according to circumstances.

Turnips—Strap leaf, or flat varieties, may be sown, *ff*, among corn, after early potatoes or on other unoccupied ground.

Winter Grain—Prepare grounds, to be sown early next month. It will succeed on sod ground, but preference is generally given to cultivate it after oats, or an early hoed crop, as potatoes.

Orchard and Nursery.

There is little to do in the orchard, during August. Some of the early apples, pears and peaches will be ripening. These should be gathered and marketed, dried, or bottled for Winter use. Now that preserving bottles are so cheap, and the process of putting up fruit so easily understood, it is well worth while to secure a good supply for Winter and Spring use.

Pruning at this season injures the tree far less than if performed in the Spring, and if neglected last month, attend to it early in August. Pruning fruit trees now is objectionable on account of the danger of knocking off fruit from other branches than those removed. Trees may, and should be so trained that the knife only is now needed.

In this section, trees are not overburdened with fruit the present season. Where there are many apples on young trees, and especially pears on quince stocks, it is better to remove a portion. The remainder will be much finer, and the trees kept more thrifty for this thinning. Better remove all except one or two specimens from trees set last Spring. The tree has enough to do to retain a healthy action in the drouth of Summer, without the additional burden of ripening fruit.

Borers have hatched out and penetrated the bark of apple and peach trees, unless the trunks were washed with an alkaline solution, or protected by a paper or other sheathing. Search for and destroy them before they penetrate the wood, which they will do next Spring if unmolested. Wash the trunks of young trees with potash water or oil soap, to destroy scale and other insects upon the bark.

Budding is in order in the nursery. Follow it up as fast as the stocks are ready and the buds mature. A few days' delay, especially with pear stocks, may lose a season's growth, as the bark frequently "runs" but a short time. See that no mistakes are made in selecting buds, and label each row plainly, noting the sort in an index book kept for the purpose. Round off stocks budded last season unless already done.

Evergreen Trees are frequently transplanted with success, from the middle of August to the middle of September, though we prefer doing it in May. If done during this month, choose a damp day, remove a ball of earth with the trees when practicable, water them if at all dry, and mulch the earth around the roots.

The growth of the present season is now sufficiently mature for layering, or inarching, to increase or change the variety. Peg down and cover with earth the new shoots of propagating stools, and tie the branches of inarched stocks to stakes, or other supports to prevent shaking about by the wind.

Those trees or branches grafted in this way last season, which are now firmly united, should have the native shoot cut away *above* and the propagating stock cut *below* the junction, at the same time loosening or removing the bandage.

Artificial watering will be needful for boxes and beds of seedlings, transplanted stocks, etc., during dry weather. Throw a spray, like a shower from a hydropult, garden engine, or syringe, or sprinkle from the rose of a common watering pot. Do not let the choice evergreens or other plants droop before giving them water. A little labor will often keep a tree or shrub in a healthy growing state, when it

would be difficult to revive it after wilting begins.

The plow, cultivator, or horse-hoe, should be run through the nursery rows frequently, to keep down weeds and lighten the soil. The hand hoe will also be needed to work closely about the trees.

Seedling trees of all kinds should be kept free from weeds. Partial shading with screens made of slats, or with branches of trees is beneficial, particularly with evergreens.

Kitchen and Fruit Garden.

It should be the aim of the gardener to make the most of the limited space of ground usually devoted to this purpose. In addition to stimulating the plants to their most vigorous growth and fullest production, by judicious manuring, watering, pruning, etc., much may be gained by keeping the whole space occupied. Two crops in a season can be taken from much of the ground. Early peas and potatoes may now be succeeded by turnips and late cabbages, and later crops can be replaced by spinage and other plants to be protected in winter.

There should be no waste of ripened vegetables. If any surplus of peas, beans, tomatoes, etc., etc., can not be marketed, they can be preserved in bottles or cans for winter use—especially tomatoes.

Asparagus—Gather and clean the seed as it ripens, and sow at once if new beds are needed. Time is saved, however, by setting out roots in autumn. Keep weeds from encroaching on the beds.

Beans—The young pods of bush varieties are excellent for pickling, and they may also be kept good for the table by packing in salt. Plant a few, *f*, for a winter supply.

Beets—In pulling for use, take them from the thickest parts of the bed, to allow the remainder plenty of space. Keep the ground well loosened and free from weeds. Mark by small stakes the earliest and best to be saved for seed.

Blackberries—Pick as fast as fully ripened. Any surplus may be dried, preserved in bottles, as directed on page 215 (July No.), or manufactured into wine according to recipe on page 247.

Cabbages, Cauliflowers, and Broccoli—Hoe often around former plantings; no plants receive more benefit from frequent stirring of the surface—once or even twice a week is none too often. Set out plants, *f*, for a late crop, and sow seed, *f*, *m*, for fall greens, and keeping in cold frames.

Celery—Set out remaining plants for bleaching, *f*. Transplant carefully, with plenty of soil attached to the roots. Earth up former plantings when sufficiently high. Good celery may be grown above ground by surrounding with boards and filling around the plants with earth or sawdust to blanch.

Corn—Mark the earliest and most prolific stalks, to be preserved for seed. Examine to prevent depredations of the corn worm which eats downward from the silk to the kernels.

Cucumbers—Gather as they attain proper size. If not wanted for immediate use, put them in pickle. See recipe for pickling ripe, p. 247. The yield will be increased by not allowing them to ripen. Reserve the best for seed, and remove all other buds from vines that are set apart for ripening seed. When a sufficient quantity of fruit is set, nip off the ends of the vines.

Currants and Gooseberries—Prune as soon as the fruit is gathered. Remove from one third to one half the old wood, and shape to tree form.

Egg Plants—The growth and ripening of fruit will be hastened by placing a board painted white on the north side of the hills. Hoe well; hill slightly.

Espalier Trees—Keep well trained and pinch off superfluous growth.

Grapes—Tie the leaders to the trellis. Where the ends of the bearing branches have been pinched off as directed last month, the side shoots will need to be shortened in, *f*. Destroy insects by hand picking.

Herbs—Complete gathering and drying, *f*, *m*, or during the period of blossoming.

Hoe as may be needed to keep the surface loose and to destroy weeds.

Hops—Pick during dry weather as soon as they attain sufficient maturity; spread until perfectly dry and store in bags.

Lettuce—Sow in vacant corners for autumn use.

Melons—Restrain the growth of vines by pinching off the ends. By removing all fruit except three or four specimens to each vine, those remaining will be larger and of finer flavor. As the melons approach maturity place a layer of straw, or a board under them to protect from worms; occasionally turn them to ripen equally on all sides, but do not injure the stem.

Onions—Gather for use or for market as they ripen, but if to be kept for any length of time, leave them exposed to the sun until properly cured. Sow, *l*, for "pips" to be left in the ground during winter for early use next season.

Peas—Clear the ground from straw of early crops and feed it to swine. Fill the vacancy with turnips, or late cabbages, lettuce, onions, etc.

Potatoes—Harvest and market early crops, and replant the ground as directed above.

Raspberries—Remove bearing canes as soon as fruiting is over and take out all except two or three of the strongest young shoots; the latter will yield the crop next year. Keep them properly trained to the stakes or trellis. Hoe in a compost of well rotted manure and ashes.

Seeds—Save the earliest and best of all kinds. Collect as they ripen, or the best will be lost. Label each sort distinctly, with the name and date of raising; keep in a dry, dark place secure from vermin.

Spinage—Sow, *f*, *m*, *l*, for autumn use, and *l*, to remain over winter.

Squashes, Summer—Gather and use or market before they harden. Leave the earliest for seed. Remove eggs of the squash bug (*Coreus tristis*) from leaves, and destroy the insects already hatched out.

Strawberries—Read articles on pages 241, 242. Clip the runners of those in hills, as they appear.

Tomatoes—Continue to trim the vines as directed last month. Destroy worms by hand picking.

Turnips—Sow flat or cow horn varieties, *f*, among rows of corn and in other unoccupied places.

Water plants which are ripening fruit if there be drouth. Give a thorough drenching occasionally at evening, rather than frequent sprinklings.

Weeds—Every one which ripens seed makes additional labor for the gardener next year. Take time by the forelock, and make them useful in the compost heap. Those whose seeds are nearly ripe, should be burned.

Flower Garden and Lawn.

August is usually the most trying month for the florist. The powerful sun wilts the foliage, dries up the plants, and shortens the period of flowering. Many plants set late in the spring, die from drouth this month, unless artificially watered. In extensive grounds it is a laborious operation to go over the flowers, shrubbery, and lawn with a watering pot. The city and large village gardens can usually be sprinkled with the hose attached to street or family hydrants. A large garden may receive an occasional artificial sprinkling with a portable hand or force pump like the hydro-pult. A simple watering pot will suffice for a small plot. Caution is needed against the too free use of water. Every showering cools the ground, and keeps it cool by evaporation—a free use of the watering pot will keep the ground cool much of the time. Plants do not need to be kept continually wet. Try the soil by digging into it; if moist within two or three inches of the surface, it is not suffering. Give a liberal watering when needed, rather than frequent light sprinklings; select the afternoon or evening for applying it. In watering evergreen or other trees, remove a little of the surface soil, water plentifully and replace the soil, which will then remain light and porous.

Now is the time to note the peculiarities of new plants, their habits of growth, form and color of

flower, etc., and to mark those specimens from which it is desirable to save seed. A small string or piece of bass matting tied to the plant indicates that it is intended for seed. As fast as others complete their blooming season, cut them down if perennials, and pull them up if annuals, to give place to others. The value will now be seen of a previous suggestion to have late sown plants in the vicinity of, or ready to transplant to spaces otherwise vacant during the remainder of the season.

Some of the biennials and perennials, such as Sweet Williams, carnations, daisies, phloxes, hollyhocks, polyanthus, campanulas, etc., will be ripening seed this month. Gather and sow the seed now, and a bloom may be had next season.

Budding—This is a proper time to bud the rose, but the practice can only be recommended on a small scale and for amateurs. The buds often die out in a few years. Oranges, lemons, magnolias, and many of the flowering shrubs may also be budded, *f*, *m*.

Bulbs—Read article on page 245.

Climbers—See that cypress vine, cobaea, convolvulus, cardiospermum, tropaeolum, corydalis, loniceera, etc., are provided with suitable supports and properly regulated.

Dahlias should now show a fine bloom of choice colors. Keep well tied up and prune where growing too thickly. One, or at most two good flower stalks, per root, is sufficient. Frequent waterings and a mulch about the roots in dry weather will benefit them. Cut away the dried flowers as fast as they lose their beauty. Watch for and destroy insects, especially the greyish worm which bores into the stalk and feeds upon its juices.

Fuchsias trained singly as standards or set in masses, always give pleasure, the unique form of the flower being universally admired. Their continuous bloom is also in their favor. We regard them as among the finest gems of the flower garden. The stock may now be increased by cuttings and layers.

Hedges should receive their final summer clipping during this month. Cut from the top. If trimmed late in the growing season, the new growth will not sufficiently mature before winter.

Hoing should be continued as directed last month.

Houses—If any are to be built this season let them be constructed this month, or during the next. Make needed repairs or alterations in those already built. A cold house for grapes and other hardy plants can be built at a trifling cost, usually a lean-to against some other structure.

Insects—Do not let them increase by a second crop, at this season. Even if they have done all their injury for the season, allow none to weave their cocoons for propagating next year.

Layers of many of the woody plants can still be made with a probability of their rooting before autumn. Use wood of the present season's growth. Shoots laid down in early spring, if well rooted, may now be severed from the main stock.

Lawn and Grass Edgings—Mow evenly when 6 to 8 inches high. Frequent cutting causes it to thicken at the bottom. A sprinkling of guano water, or liquid manure, after cutting, will cause the grass to start with vigor. New lawns may be sown, *f*, adding a little winter wheat, or rye, to protect the roots during the winter.

Mignonette will still bloom late in the season, if sown, *f*. It will also form good house plants for winter flowering.

Pelargoniums—Start cuttings, *f*, *m*, for a winter stock to bloom in-doors. Thin out and head back plants to give them a good form.

Potted Plants will need care at this season. Water frequently and loosen the surface soil removing weeds and moss. Pot off a good stock of the various plants intended for early winter flowering.

Pruning should have been mostly completed last month according to directions there given. See desirable forms of trees, pages 240 and 241.

Roses—Budding may still be performed on late growing sorts, and layers of new wood pinned down. Continue to apply the slug preventive as long as

there is any necessity. The remontants should now show a second bloom.

Verbenas, though common, have no superiors as bedding plants. The past few years have added many new seedlings, some of remarkable beauty, and others quite *fragrant*. Keep well pegged down, and layer a stock for Winter flowering.

Weeds—Keep from the borders, walks, and also from growing among the grass upon the lawn.

Wild Flowers—Many of these are now in bloom. Note the desirable kinds and mark the spot where they are to be found, to be transplanted at the appropriate season. The peculiarities of soil, shade, moisture, etc., where they grow naturally, should be borne in mind for future guidance.

Green and Hot-Houses.

Scarcely anything need be said with reference to these, more than to cite the directions of last month. As most of the ordinary house plants are now in the open ground, they have been referred to above.

A good supply of potting earth should be prepared, both for present and future use. It is better after having lain in the heap some months, hence a large stock should be provided. A good potting soil is made of 3 parts leaf mold, 1 part loam, 1 part sand, and 1 part old manure.

Houses should be put in readiness to receive tender plants the latter part of next month. It is always better to have any painting done some weeks before plants are brought in.

A good stock of cuttings of various kinds, intended to form late Fall and early Winter flowering plants, should now be put in and properly cared for. A house, or frame is needed to start them well.

Potting should be attended to now, that the plants may be ready for an early Winter bloom.

Apiary in August.

Prepared by M. Quinby—by request.

Bee keepers the present season, taking Montgomery Co. as a sample, will have a difficulty to contend with, just the reverse of the one last year. The bees then obtained too little honey, this year too much, at least, for their future prosperity. So great a portion of their combs will be filled with honey, that the number of cells left for breeding will be insufficient to keep the colony in its usual strength. This will be the case should there be no unusual change in the yield of honey this month. The remedy is at hand for those having the movable combs. It is simply removing one or more outside, or any other combs that may be filled with honey throughout, and substituting empty frames, or frames with empty combs. Make room for them near the middle, by moving those in the center outward. The full combs can be set away, and given to any late swarms that do not obtain sufficient winter stores, or, if the colonies from which they were taken, have not enough, they may be returned. When not wanted thus, save for the table.

"Buckwheat swarms" are liable to issue from the 10th to the 25th of the month in many sections. In such cases I have usually advised taking away the queen, and returning part or all of the bees to the parent stock. When an increase of stocks is desired, and surplus combs like the above can be had, these late swarms may be hived, and made safe for winter stores, by adding one or two of the full frames, after they have finished their season's work.

Small swarms that have only half filled the hive, will suffer more from the moth worm than full swarms; they should be looked to often. Stocks that have over-swarmed, or are queenless, are sometimes ruined before it is suspected; the worms work out of sight among the combs, unmolested by the bees. The indications are, fine powder, like specks on the floor; they need a little examination to distinguish these from the chips of wax that will also accumulate. These infested hives must be re-infused, or some of the combs must be broken out, leaving only what the bees can protect. Should these remedies fail, take out the bees, and save the contents, before all is destroyed, and a swarm of moths matured to molest other hives.

Boxes taken off early must be watched, to keep the worms from spoiling the combs. When they are first hatched, their course is marked by a white thread-like line. Subject them to the fumes of sulphur to destroy them. They must be kept dry, and in a cool place when possible.



Into which are thrown various useful or interesting Items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Premiums for August.—Many of our distant readers will be interested in the Publisher's offer of Premium Strawberry plants on last page. Other premiums of books on the same page, and of new wheat, on page 255, are continued this month. The standing premiums are omitted to save space. Those interested will find them in July number, page 218.

The Prize Articles, called for on page 231, will need, and we trust receive early attention. The time allowed for preparing the first three, is necessarily very short, but we desire the information for our October issue.

The Household Department appears to be specially valuable this month. We again solicit our lady readers to contribute useful matter for that part of paper.

Two Good Schools.—We neglected last month to call attention to the advertisement of the *Fort Edward Institute*, as we intended to do, but it was perhaps unnecessary, as we have before spoken of the School and its Principal in the highest terms. We now desire also to strongly commend the *Ellenville High School* or Seminary. We are personally and intimately acquainted with the Principal and Preceptress, and can assure our readers that those who place their children under their care, will intrust them to kind, faithful, Christian Teachers, who will spare no effort to improve them morally as well as mentally. The full particulars as to terms, etc., can be readily obtained by sending for a Catalogue or Circular, as per announcement in the advertising columns.

Feed for Horses.—*Important Experiment.*—The London Omnibus Company use 6000 horses. A recent report states that 3000 of these, fed daily on 16 lbs. of bruised oats, 7½ lbs. of cut hay, and 2½ lbs. of cut straw for each horse, *did as much work and kept in as good condition*, as the other 3000 which were each fed with 19 lbs. of unbruised oats, and 13 lbs. of uncut hay, per day. Calling the 2½ lbs. straw equivalent to 1½ lbs. of hay, and the saving is 3 lbs. of oats and 4 lbs. of hay per day for each horse. Thus, then, the mere bruising of oats, and the cutting of hay effects a yearly saving for each horse of 34 bushels of oats, and 1,460 lbs. of hay! These experiments, made upon so large a number of horses, and continued for a considerable length of time, are very conclusive, and forcibly indicate the advantage of what has been so often urged in the columns of the *American Agriculturist*, viz.: the grinding or crushing of all grain, and the cutting of all hay and other forage fed to horses. The same thing will be found partially true of other animals, though the ruminants—neat cattle and sheep—masticate their food more in chewing the cud, and hence the bruising of oats or other grains is not so important for them as for horses and swine.

Good Prices for American Cattle.—The animals taken from the Thorndale herd, to England, to fill orders received by Samuel Thorne, Esq., their owner, were sold at the following prices, according to the London Agricultural Gazette. 2d Duke of Thorndale, \$2000; 3d Duke of Thorndale, \$1,500; 4th Duke of Thorndale, \$2,000; Thane of Oxford, \$1,250; Imperial Oxford, \$1,000; Lady of Oxford, \$1,250; Hero of Thorndale, \$1,000; in all \$10,000, which equals the sum paid by Mr. Thorne several years ago for their sires, the two Grand Dukes.

The Clothes Wringer.—Mrs. J. F. Sawtell, of Worcester Co., Mass., writes July 4th: "The Clothes-Wringer received as a premium for obtaining subscribers to the *Agriculturist*, I like very much indeed, and wish to strongly recommend it to the lady readers of the *Agriculturist*, and advise them by all means to get one, and thereby save much time and strength. Though much has been said in its favor, none too much has been said. It is everything I expected, and more.... My little girl, not quite 8 years old, often wrings my clothes for me, and likes the fun.... My husband at first opposed my choosing this premium, for he is one of those on the look out for humbugs, but he is as much pleased with it as I am, and thinks it a great saving of time and hard labor...." (There is no mistake about the value of this implement, and we intend to keep talking about it until every housewife in the land shall be the possessor of one. It not only saves much hard work, but it also saves garments much more than its cost. Perhaps it can be got through the Publisher's Premiums, see page 218, July No., as cheaply as otherwise.—Ed.)

Choking of Tile Drains.—C. C. Simpson, Kent Co., Md. Well laid tile drains are in little danger of choking. If they have a uniform grade—no depressed places—the fine earth filtering in through the joints will be carried off. The greatest danger is from roots of trees; if one of these find its way to a joint or opening, it will grow rapidly, and often displace or clog the tiles. No deep rooted trees should be over or near tiles. Faults, or choking of tiles, can generally be discovered by the wetness of the soil at the defective points.

Wood Drains.—A Herkimer County Farmer alluding to our draining articles, says he uses wood and likes it. He lays 1 inch spruce or other board in the bottom, 1 to 2 inch scantling on the sides, and short slabs crosswise for cover. He uses a circular saw, to cut and joint them. They will answer well for a short time, but while about it, it is far better to make a permanent drain of tiles.

Siphon Draining.—H. A. Kelly, N. Y. Only metallic tubes absolutely air-tight, will answer for a siphon pipe, to carry water over an elevation. Any small portions of air entering, would gradually collect in the highest portion of the pipe, and in the end stop its action. So, also, an intermission in the flow would stop the action, and to start it again, it would be necessary to either apply suction to the lower end, or raise the water at the upper end as high as the highest point of the pipe.

Cleaning a Miller's Bolt.—C. C. Fuller, of Waldo Co., Me., asks how to clean off the fine particles of flour that have, by dampness, hardened upon the screen, and become sour. Since the reception of his query, we have asked several millers whom we have chanced to meet, but found no one who used anything but a brush. Perhaps a weak solution of alcohol and water, (weak whisky,) might answer, or for cloth bolts, we should suppose the careful use of water, and rapid drying would not injure the fabric. Some of the many practical millers among our readers may be able to give useful hints.

Strawberries on an Acre.—"Uninitiated" refers to Mr. Knox's statements in the July *Agriculturist*, page 211, and gives a calculation to the effect, that 300 bushels per acre would give only 1½ plants to the quart, if the plants are 30 by 15 inches apart, or 2½ plants to the quart if 20 by 10 inches apart; or for 500 bushels to the acre only 1 1-5 plants to the quart. This calculation should be by the *hill* or *stool* rather than by the *single plant* or stem. There may be more than one plant in a hill. A quart of Wilson's strawberries is not an incredible nor even a very large yield from a single *hill*, in rows 30 inches or 2½ feet apart. We have picked and measured 33 quarts from 60 hills 15 inches apart each way, besides what were eaten directly from the vines; and this from varieties much less prolific than the Wilson, and only the next year after planting. "Uninitiated" begs Mr. Knox to tell *how* he gets such crops.

Strawberries and Blackberries in Market Together.—On the 18th of July we had an exhibition at the *Agriculturist* Office, baskets of the Austria Strawberry, taken from a large lot sent to market at that date. At the same time considerable quantities of blackberries were also offered in this market. Hitherto there has been an interval of one or two weeks between these two fruits, to be filled with raspberries. By the improvements being made, we shall soon have an unbroken succession of small fruits from the departure of frost to its return. Residents of new countries need no longer wait for the slow growth of fruit trees; they can, at trifling expense, and in a brief period, obtain a full supply of luscious berries of various kinds.

Strawberries or Blackberries?—B. C. Whether Strawberries would yield the best return depends upon a variety of circumstances, as soil, climate, season, etc. Where a full crop of both could be sold, strawberries would probably give the most profit per acre. It is safer to cultivate several sorts of small fruits. If one fail, some other may do well; there is also the advantage of successive employment for hired help. On 10 acres of ground a good division might be, Strawberries 4 acres, blackberries 3, raspberries, 2, currants 1 acre.

Parsneps, Wild and Cultivated.—"J. H." Memphis, Mich. The seed of the cultivated parsnep will reproduce its kind, and you need not fear to use roots grown from such seed. The wild parsnep which has a sharp, bitter, poisonous root might, perhaps, by cultivating for many generations, be brought up to the standard of the garden sorts, but it would hardly pay to attempt it.

Horse Beans.—"J. H." Memphis, Mich., writes that from his own experience and that of many others, with seed of the Horse Bean brought from England, he believes it will not grow successfully in this country.

Blanching Celery with Sawdust.—T. L. F., Carbon Co., Pa., writes: "Mr. Isaac Ripple, of Luzerne Co., Pa., tried an experiment last year in blanching celery, with a result which far exceeded his expectations, and I take the liberty of communicating his plan for the benefit of the readers of the *American Agriculturist*. He prepared his trench and set the plants in the usual way (but he thinks he would have succeeded quite as well without the trench). After the plants were fairly established, he enclosed them with a board box, which he filled, as the plants grew, with sawdust, instead of earth. The celery appeared to grow better than when banked with earth, and when brought to the table, the stalks were white, crisp, and tender from bottom to top. There was neither rot nor rust, and when wanted for use, by removing one side of the box, the sawdust fell away from the plants, leaving them almost sufficiently clean for the table. He had also single plants set here and there wherever he had vacant space in his garden, which he covered with boxes and headless barrels, and blanched with sawdust in the same way, many of which grew higher than their enclosure and were perfectly blanched as high as the sawdust extended. The sawdust was used just as it came from the mill, where White Pine and Hemlock were the principal kinds of lumber sawed. [We should have supposed the plants would be slightly flavored with the pine and hemlock sawdust.—Ed.]

Muskmelons Cracking.—G. S. W., Monroe Co., N. Y., lost his melons by cracking, as alluded to by a previous correspondent, until he put small pieces of boards or shingles under them a little while before ripening.

The Hubbard Squash and Insects.—Geo. W. Powell, Hancock Co., Ill. We have found in our own experience, what you suggest as probable, that the striped bug and other insects have a special liking for this valuable squash. They can be preserved only by unremitting care, use of ashes, and hand picking.

Squash Vine Borer.—C. B. Shoemaker, Montgomery Co., Pa., sends specimens of Hubbard Squash vines, destroyed by a worm at the root, and asks for information. The injury is done by the *Ageria Cucurbitae*, or squash vine *Ageria*. The parent insect is about $\frac{1}{2}$ inch of an inch long, orange colored spotted with black, having its hind legs fringed with orange colored and black hairs. It deposits eggs on the vines close to the roots, from about the tenth of July to the middle of August. The larva when hatched, bores into the stem, works downward, and kills the vine. We know no certain remedy, but to protect the vines with millinet frames. The eggs might be detected and removed before hatching.

Strawberries—A Good Picking.—Carew Sanders, of St. Louis, Mo., tells us through the Valley Farmer, that at one picking he gathered five bushels of Wilson's Strawberries from $1\frac{1}{2}$ rods of ground, or at the rate of 70 bushels per acre. This was without any extra culture. The bed was in its third season of bearing; was planted in rows four feet apart, the plants all taken out from between the rows each year, leaving plants 12 to 18 inches.

Morel.—F. W. Purdy, Bourbon Co., Ky. This plant resembles the mushroom, and is used similarly, especially for gravies. It has not a smooth surface like the mushroom, but is irregular, and has a deeper hollow on the under side. It grows wild in moist places, in some parts of the country. We are not aware that it has been cultivated.

Large Potatoes.—T. P. Dunham, Kalamazoo Co., Mich., puts Mr. White's large potato quite in the shade—(see page 69, March *Agriculturist*.) He writes that he raised 10 bushels of fine blue merced potatoes as he ever saw, from 12 potatoes! He cut them, planted 3 eyes in a hill, on land previously occupied by a rail fence, never tilled before. They grew very large, the heaviest weighing $5\frac{1}{2}$ lbs!! while others weighed $4\frac{1}{2}$ lbs., 4 lbs., $3\frac{1}{2}$ lbs.

Barren Beans.—Joel Y. Schelly, Berks Co., Pa. Broad Windsor and Scarlet Runner Beans seldom set pods from blooms which open in the heat of Summer. Our climate is too hot for them. Upon the approach of cool weather the flowers will frequently remain longer and set pods. It is better to plant late, say the middle of June—or raise in frames, and plant out very early. They stand a little frost.

Dwarf Broom Corn in Ohio.—G. L. Howard, Lorain Co., O., planted some of this seed obtained from the *Agriculturist* office a year ago. It grew 4 feet high, with straight solid brush, from 16 to 22 inches long, and made excellent brooms. Most of the seed ripened.

Monster Arum.—Mr. S. H. Haviland, Kings Co., L. I., has placed on our table a very large flower of the Arum Draucunculus, 15 inches long; and 7 inches wide, with a spadix 12 inches in length. The flower is of bright velvet, or reddish purple, and the largest of this species we have ever seen.

The Escholtzia Perennial.—C. W. Servoss, Atchison Co., Kansas, writes that seed of the above received from the *Agriculturist* Office, came up well, and flourished through all the "terrible drouth and burning siroccos" of last season. They showed a fine bloom, and, although an annual, Mr. S. covered his plants lightly with litter, and by the middle of last May they began to bloom again, and are now, (June 3,) "a mass of flowers."

Maurandia Barclayana.—This plant is described by Breck as an elegant green-house climbing perennial, which may be raised from seed, and brought forward in a frame, or small pots in a hot bed, so as to flower profusely from August to October, or until killed by frost. Plants are also to be had at most green-houses at small expense, say 25 to 50 cents each, which, transplanted to the open border the first of June, will flower profusely during the season. They should be provided with a wire frame, or strings, for the tendrils to attach themselves. Flowers purple, bell-shaped, and graceful, in fine contrast to the deep green foliage. The plant extends from six to twelve feet.

Dicentra Cucullaria, or Dutchman's Breeches, is the name of the flower sent by H. A. L., Worcester Co., Mass. It is a native, resembling, but not equal to, the Chinese *Dicentra Spectabilis*.

Lady Gardeners.—E. Y. Teas of Richmond, Ind., writes to the Ohio Cultivator, that his gardener has gone to the war, and that he has "engaged a young lady to take charge of the green-house." That's all right, and just what the *Agriculturist* has long encouraged. There is no reason why ladies may not excel in a garden, and especially where so much skill and taste are requisite as in a green-house. We once heard a gardener compliment a lady who was remarkably skillful in striking cuttings, that "whatever she put in, knew it had to grow."

Flower Books.—E. O., Nashville, Tenn. Breck's Book of Flowers is the work you want. It is descriptive, and gives many practical directions. Sent post-paid for \$1.

Cobaea Scandens.—J. M. M., Huntingdon Co., Pa., alluding to the statement that this plant will not bloom in pots, says that his plants flowered freely last February, in an 8-inch pot. Its growth from October, when it was put in the Conservatory, until it flowered in February, was 25 to 30 feet.

Pot Roses and Acanth in Borders.—J. M. M. It is better to turn these plants into the open border in Spring, and repeat them in the Fall.

Tea Roses not Hardy.—L. T. Wheeler, Kosciusko Co., Ind. The tea roses will bear some freezing, when protected, and in your latitude would probably live in the open ground, if covered with earth during Winter. We protect ours in that manner. It is better to pot and set them in a green-house, in the Fall.

Rose of Jericho.—(Anastasia hierochuntina.)—This is not a real rose, but an annual herbaceous plant, which grows in the sandy deserts of Syria and Egypt. When mature, it rolls itself up, and the winds blow it over the arid plains. It opens again during the rainy season, and once more becomes a living plant.

Raising Plum and Cherry Trees.—German Subscriber, Elkport, Ind. You can be certain of good varieties of fruit trees, only by grafting or budding with desirable sorts. Seedlings are seldom true to their kind.

Hop Tree. *Ptelia trifoliata*.—L. H. Hammond, Franklin Co., O.—This is a small tree, or more properly a shrub, rather ornamental, but of little value as a substitute for the quick growing and easily raised hop vine.

Leather Scraps for Fruit Trees.—C. Garrison, Atlantic Co., N. J. These are good to spread around newly planted trees for a mulch, and in their slow decay they yield some nourishment.

Wild Grapes.—A subscriber wants to know the reason of their unfruitfulness when brought into gardens and cultivated. Most of them are poor bearers or barren in their native localities. As a rule they are not fit to eat when they do bear, and so long as good grapes can be had, it seems a waste of time and soil to transplant them.

Market for Grapes.—There is no danger of overstocking the market in the present generation. Dr. Underhill's Isabellas and Catawbas are sold every year, at thirteen cents a pound and upward, this being the lowest price we have ever known them to bring. We want grapes so cheap and plenty that the poor can have them upon the table every day during the grape season. They are now an expensive luxury. The sale of fruit will pay much better than wine making in any of the older States.

Vermont Farmers.—T. L. Tucker, West New

berry, Vt., after planting his corn, went to the war as a drummer. Twenty seven of his neighbors turned out and hoed his corn. When he hears of this he will doubtless put in "double licks" with his drum sticks, and be less likely to "tucker out." There will doubtless be an old fashioned "husking bee" next Fall not a thousand miles from West Newberry.

Those Neglected Tools.—A subscriber in Bureau Co., Ill., writes to the *American Agriculturist*, "I have no doubt you would feel terribly vexed, as I did, to see reapers and mowers left in the road, or in the field where they were last used, to stay there until wanted next year." Yes, it always vexes a man of common sense to see thriftlessness. No wonder "it's too hard times to take a paper" with such people. It is gratifying to know, however, that there is much improvement generally in the care of implements. Most cultivators in the Eastern section of the Union keep tools properly sheltered.

That Mammoth Horse.—Wm. McCracken, Morgan Co., Ind., writes that he raised the large horse mentioned in the June *Agriculturist*, page 166. The horse was sold by him to Richard Johnson, of Morgan County, who exhibited him at various places, traveling as far South as New Orleans. The horse died shortly after this at St. Louis, Mo.

Gapes in Chickens.—A subscriber recommends asafetida for this disease. He puts a piece of the size of a hickory nut in a pint bottle of water, shakes it up, and mixes the water with meal. The bottle is then filled again with water, for the next dish. He gives this mixture to the fowls every day, until the danger of gapes is past. One ounce of the asafetida lasts through the season, and he raises as many early chickens as he desires.

"Absconding Bees."—M. Quinby, Montgomery Co., N. Y., writes: The paragraph from the "Bee Journal," on page 197 of the *American Agriculturist*, concerning the only reliable means of preventing the absconding of a swarm, is not to be depended on in all cases. I have found exceptions with both natural and artificial swarms, when managed precisely as there directed. The proportion swarming out after being hived, is as great as with regular swarms. I object to rules being given as *infallible*, because they have succeeded in a limited number of cases. I have had hundreds of swarms, and not one left for the woods without first clustering. Would it be very inconsistent to say they never did? Yet I am satisfied that they will do so occasionally. It may be a good way to put a refractory swarm in the cellar for a time, but it can not be depended on. Treatment of "twenty-four hours" duration will not always have the desired effect. I have found it necessary to confine them three days before they would remain contented.

Rat Remedy.—We have never found any remedy, but to make the building rat proof—either by putting it on posts capped with tin or stone, or by making the cellar tight by cementing the bottom and sides. This is effectual, and if the doors are kept shut, such a building is inaccessible to rats. The poisons are only a temporary remedy, and cats, ferrets, and terriers only half do the work.

To kill Rats, Mice, Squirrels, Gophers, etc.—I. M. Evans, in the Oregon Farmer, says: mix one quart corn meal with milk until it is in the proper state to bake: add $\frac{1}{2}$ teaspoonful fine powdered glass, mixing thoroughly. Place the mixture in barns, near holes and other infested places, and bid farewell to the vermin. Mr. E. says the recipe is worth \$20 to every farmer.

Kidney Worms in Hogs.—This, and most other diseases in hogs, are the result generally of want of care and cleanliness, or arise from injudicious and irregular feeding; from their being kept in foul and wet places, with no clean dry place for sleeping. The remedying of these evils is better than medicine, and without attention to these things, medical treatment is without avail. For slight ailments charcoal and cinders are excellent. For disease of the kidneys diuretics are indicated, especially fruits and vegetables.

Wire Worms.—A subscriber kills them by Fall plowing. This is a cheap remedy, and good for the land.

Starlings or Parrots are now kept at some of the Railroad Stations in Scotland, and taught to call the name of the stations loudly and repeatedly, whenever a train arrives. The passengers are thus notified of their whereabouts. Perhaps the plan may be generally adopted—if the birds can be made to talk only when needed—there is certainly "confusion of tongues" enough already at a Railroad depot without the addition of babbling, garrulous parrots.

Cheap Paint.—G. S. W., Rochester, N. Y., has tried and likes the cement paint described on page 136, May *Agriculturist*. He used no coloring material, preferring the tint given by the water lime.

Drainage—Can be done in any land where there is a fall of one foot in a hundred. More is desirable, but this will answer if you have a good outlet.

Salt on Wheat—Is recommended by a Wisconsin subscriber. He says two bushels to the acre increases the yield twenty per cent. Doubtless, on many soils.

Separating Chaff from Wheat.—C. D. Bel-lows, Vermillion Co., Ill. Much of the chaff seed can be separated by a good fanning mill. A very effectual way to get rid of this and other foul seeds, is, to cover the grain just before sowing, with strong brine, which will float the weed seeds, while the wheat sinks. The worthless stuff can then be skimmed off and burned.

Alsike or Swedish Clover has been raised as a farm crop by Mr. S. B. Parsons, in Queens Co., N. Y. He speaks highly of it; says it stood the Winter well, grows nearly as high as the common red, and produces abundance of pinkish white flowers, from which it is claimed bees can extract the honey. The *Incarnata* or French clover was entirely killed by the Winter.

Bee Poison in Buckwheat.—S. W. Jewell writes in the Ohio Farmer, that the medicinal principle upon which the irritating properties of buckwheat depend, is the *Apis venenum* or bee poison, and is one of the sources from which the bee obtains its supply. He says the irritable habits of the honey bee during the flowering of buckwheat corroborates the above statement. He prescribes carbonate of soda to be used in raising the batter for "flap-jacks," as a preventive of the eruption sometimes caused by using buckwheat cakes freely.

First Milk Poisonous.—The Maine Farmer says a gentleman lost a fine sow in consequence of giving her the first milk of a cow after calving. The editor experimented twice, by feeding it to pregnant sows, and each time the mother cast her pigs dead. A neighbor nearly lost a sow from the same cause. Of course, the first milk is not injurious to the young animal for which it was intended—on the contrary it is just what is needed.

Milking Machines Injurious.—So says the Dairy Farmer, and so says the *American Agriculturist*. Every thing in the process should be soothing and gentle, instead of the harsh jerking motion of a "milk pump." We have seen a good many milking machines—perhaps not all that have been proposed—and we have yet to find one we should be willing to have used.

Tulips from Seed.—"Subscriber", Jerseyville, Ill. It is a slow, troublesome process to obtain tulips from seed, and even then they may be poor sorts. If disposed to try the experiment, the seed should be sown in August, in boxes of earth, and put in a frame or otherwise protected during Winter. It is usually better to purchase the bulbs, or roots which are readily obtained from a seedsman or professional cultivator.

Wild Flowers from California.—From No. 8 of a lot of wild flower seeds received from J. Child, of California, we obtained some pretty flowers, resembling *Cuphea viscosissima*, or sticky *Cuphea*. Sown May 1st, and flowered last of June. Flowers, bell-shaped, purple and yellow; plant 6 inches high. Mr. Child writes that it grows wild, 3 inches high, and likes a rich and shady location. We can find no botanical description of it. It is worthy of introduction into the flower garden, and we shall be obliged to Mr. Child if he will secure us a larger parcel of seed, for cultivation and trial next year.

Acroclitum Roseum, or New Rose-colored Everlasting Flower.—We have in bloom plants from seed presented to us by B. K. Bliss, the well known florist of Springfield, Mass., and are highly pleased with them. Mr. B. thus describes them: Nat. Ord. Compositae. Native of Australia; half hardy annual; one foot high; flower bright rose, from July to September. A very fine plant for the border, producing many stems from the same root, each terminated by an everlasting like flower of a bright rose color, resembling that of the *Rhodanthé Manglesii*, but much larger; of easy cultivation in any friable garden soil. If the flowers are removed when they begin to fade, the plant will continue blooming until October. Sow for early blooming, in gentle heat in March, nurse in pots, and plant out in May. Sow in open ground in May, in a rich garden soil.

Collinsia Bi-color.—Mrs. C. Myers, Chenango Co., N. Y., sent us a few unnamed seeds, received from Germany last year. We planted them May 1st, and on blooming July 2d, they proved to be the *Collinsia bi-color*, which was, we think, originally from California. It is a very pretty annual, grows 12 to 18 inches high, of compact habit, and bears beautiful flowers, somewhat resembling the snap-dragon in form, and about half its size. The petals are white and reddish violet, different shades. of general introduction.

Convolvulus Tri-color.—(*Dwarf Morning Glory*).—Seeds received from Geo. Fechtig, Washington Co., Md., last Spring, we sowed May 1st, and obtained beautiful flowers the last of June, the petals having blue corolla, yellow calyx, and white center. There is a variety entirely white. This is one of the finest annuals, furnishing a large amount of blossoms in succession. Its dwarf habit (15 to 18 inches,) adapts it well for a bed plant, as it requires no trellis to run upon. The blue color is very showy. Seeds can be had at most seed stores.

Tufted Vetch, or Tare.—(*Vicia cracca*).—This is the name of a plant we have raised from seed received from Mrs. Beckley, of Madison, O. She calls it "cassia vine." Sown middle of April, flowered June 20. Grows 2 to 3 feet high, and branching, requiring low trellis or other support; 12 to 24 leaflets on long stems, with two to five tendrils at the end. The flower stems, 3 to 4 inches long, bear 20 to 30 flowers on each, on one side, beautiful blue and purple. This is a fine flowering annual, easily grown. Used as a low screen, this plant, with its profusion of blue flowers, makes a pretty show. Several varieties of the vetch, (especially the *sativa*), are extensively grown in Europe for fodder, and used similarly to clover. A few varieties are found wild in this country.

To Grow Large Fruit.—A French Amateur says: "If you want to have big pears or other fruit, just work (graft) on them the point of an adjoining shoot. If you want big gourds, bore a little gimblet hole in their rind when a few weeks old, and push in a long piece of cotton wick with the loose end in a pan of water. The cotton wick will suck up the water, the gourd will suck the cotton, and by the time the fruit is ripe, you will have the hugest specimen that ever was seen. [If it grows.—Ed.]

Low Branching Trees for Prairies.—J. T. Moxley, Sheboygan Co., Wis. No doubt your success with apples was mainly owing to your having the trees branch low. They may be raised in this way, in nursery rows 5 feet apart and 1½ feet distant in the row, or even closer if desirable, transplanting to the orchard two years from the bud.

Hornets and Wasps Serviceable.—David E. Cox, Lincoln Co., N. C., writes that hornets and wasps are very serviceable in destroying insects which injure vegetation, and that they should therefore not be molested, but encouraged. He says that they rapidly cleared a pear tree on his premises of the aphides which infested it; also that a neighbor of his had a crop of tobacco saved from worms, which were destroyed by hornets. It is true that hornets and wasps prey upon insects, for the sake of the vegetable juices they contain, but they are also sometimes troublesome by attacking fruits, and their venomous stings make them unpleasant neighbors. Perhaps, however, they are more beneficial than injurious; if so, let them be preserved. Here is an interesting question for the investigation of young entomologists.

Toads Eating Bees.—Mr. J. Wakeman tells the Editor of the Rural New-Yorker that toads do eat bees, and is willing to take oath that he opened a toad destroying bees about his hives, and found 52 whole bees in his stomach! None of these rascals are to stay about his hives. Mr. Quinby at one time informed us that toads would eat bees, but he believed they took only the drones.

To Destroy "Manroot".—(*Convolvulus Panduratus*).—Peter Hillebaum, Drake Co., O. Dig them up, or plow them under, and cultivate the ground thoroughly with corn, or potatoes, or some other root crop. This treatment continued long enough, will eradicate any weed. Of course heavy manuring will be needed where several successive hoed crops are taken from a field.

Origin of Morgan Horses.—R. A. Gray, Jackson Co., Oregon. The breed of Morgan horses descended from a horse called the Justin Morgan, named from his owner, who lived in Randolph, Vt. The pedigree of this horse is not known. It is supposed, however, by good judges, that he came from a cross of the Arabian, or thorough-bred, with the common stock.

Weather Proof Nails.—A writer in the "Field Notes" recommends nails prepared in the following manner, for fastening roof boards, weather boards, and other places where it is difficult to make a nail hold: Take ten-penny malleable nails, and place the head in a vise; with a pair of pincers seize the nail near the point, twist it half way round, making the twist somewhat elongated. In driving, the nail becomes a screw, and neither sun nor hammer can draw it. Common cold cut nails can be made malleable by heating them to redness and cooling off slowly.

Cement Pipe Chimneys.—Passing a cement tile manufactory the other day, we observed they used the hollow pipes, set one upon the other, for a chimney. This is suggestive at least. Perhaps we may yet have chim-

neys ready made in sections for setting up, as an article of merchandise; and possibly cement pipes may take the place of iron stove-pipes in those parts of a house where it is desired to retain the heat, rather than to have it given out into a room.

Maple Sugar.—Very fine white sample received from W. H. Platt, Somerset Co., Pa.—We shall be pleased to learn the process of making such an article.

Hair as a Fertilizer.—James Wrigley, Worcester Co., Mass. Hair, from its composition, must be a good manure, as it contains much nitrogen. We do not know what is the best solvent. Mixed with lime, and subjected to the heat of a compost heap it will be decomposed. We have known it applied directly to the soil where it produced good results; it gradually decays by the combined influence of air, warmth and moisture.

Immense Receipts of Grain at Chicago.—The receipts of the various kinds of grain at Chicago, during the first six months of this year, amounted to nearly nineteen million bushels! or accurately 18,777,471 bushels. These figures are obtained by reducing the flour to its equivalent of wheat, and including corn, oats, barley, and rye. The receipts of wheat alone, including the flour, amounted to over 8,000,000 bushels; corn, 9,433,364. The total receipts in 1860, for the same period, were 13,091,437 bushels; and in 1859 only 5,629,793 bushels.

The New Tax on Tea.—There is at the time of this writing not a little alarm on the part of some people, because Congress is discussing the propriety of laying a duty of 15 cents per pound on tea. The majority of families do not consume over 10 lbs. of tea a year, on which this extra charge of 15 cents per lb. amounts to one dollar and a half—not a large contribution for the defence of a government that secures us all we have.

The Children Should Sing.—No accomplishment gives more real pleasure in the household than singing. It is a solace in trouble, a delight in leisure, and a powerful stimulant of the better nature. Every publication that furnishes good music, is a benefaction to the country and deserves appreciation and support. The latest musical work for children, is the "Golden Chain," by Wm. B. Bradbury, with whose music the readers of the *Agriculturist* are already somewhat acquainted. Most of the pieces are new, and many of them very choice. Price, 15c., or \$12 per hundred.

A Neat Book Mark is manufactured by Wallace & Sons. It is a strap of brass two inches long, with a hand on one end and a foot on the other. The ends are bent together so as to be slipped on to a leaf in a book. We are indebted to Jno. Mix of Hew Haven Co. Ct. for a card of them, which we are turning to practical use.

The Prospects for Farmers.

While most departments of business are greatly depressed by the disturbances of the country, farmers have little to fear. Several causes have conspired to keep the prices of agricultural products at a low figure thus far, notwithstanding the large demand upon us from abroad for breadstuffs. The chief cause, however, has been the lack of a suitable currency. The depreciation of the Stocks of the revolted States has nearly destroyed the value of the bank bills of some of the Western States, and gold and silver, or specie paying bills, are just beginning to be diffused. The new Treasury Notes about being issued by the General Government, will add largely to our circulating currency—in other words, "money will soon be plentier," and prices must necessarily go up.

The unexpected good weather in England and on the Continent, during June, led to a temporary less demand for wheat and corn, and our market fell off for a time; but from all accounts—even those most recently received—there must still be a large deficiency, and the demand upon this country will be continued. The market is even now rapidly recovering from the recent decline. Our own harvests are progressing favorably, and though the yield is fair, there is not likely to be a large surplus to keep prices at a very low figure. The course of the New-York markets, for a month past, will be given in our Market Review, at the close of the paper.

"Information Wanted" from Practical Men—\$240 offered in Cash Prizes.

Winter Wheat—Rye—Fattening Hogs, etc.—Winter feeding of Stock—Spring Wheat—Oats—Corn—Apples—Peaches—Blackberries and Raspberries—Family Vegetable Garden—Flower Garden.

There is a large amount of information among practical cultivators, that would be of great utility to the country generally, could it be drawn out and put in tangible form. We are aiming to do what we can in the good work, and the main question is, how can it be best accomplished. Two years since we offered a prize for the best article on Onion Culture, to be written by an experienced man, in a plain style, etc. The result was, a large number of excellent articles came to hand. They were carefully examined by a committee of competent practical men, and the prize awarded—the best article being published in the *Agriculturist*. Seventeen of the essays were afterwards published in book or pamphlet form, producing a little work which stands unrivaled as a source of plain, practical, condensed, but complete information. Nowhere else can such a variety of good information on the subject be found in so small a space. The plan worked so well, and was of so much value to the country, that we propose to extend it to other topics. We therefore now offer prizes on twelve different topics, and if the plan continues to work well, as it doubtless will, we shall hereafter make other similar offers for other topics. Those competing for these prizes, will do better to write wholly from their own experience and general observation, than to attempt to make up a complete treatise by copying from, or garbling books. The main point aimed at in this enterprise, is to collect the experience of a considerable number of practical observing men, and it is hoped that such men will write, for the general good, even if without expectation of gaining the prize. The prizes, which will be cheerfully and promptly paid in cash, are designed both as a stimulus, and to call direct attention to the subject. Here are the specifications. The time for preparing the first three is short, but we want the information this season.

REMARKS APPLICABLE TO ALL THE ESSAYS.

1. Each article must be written by a person having had full practical experience, (the amount of experience to be stated,) and be of the length, and furnished at the time specified below for each. Only one side of the paper to be written upon.
2. The shorter the essays the better, if plainly expressed and embracing all needed items. Those in our work on "Onion Culture" are fair models.
3. The articles must all be written so as to be understood by the inexperienced. The best rule will be for each writer to give his directions just as if instructing a person who had not the slightest knowledge or experience on the topic.
4. The articles should be written in a large plain hand, so as to be easily and rapidly read. The language should be that of familiar talk; the grammatical style or expression is not of so much importance as the amount of information clearly expressed in few words. The style can be corrected by our editors, when an article is to be printed.
5. The prize in each class will be paid to the order of the person to whom it shall be awarded by a competent committee, after they have had time to examine all the manuscripts submitted.
6. The prize article in each case will be published in the *American Agriculturist*, as we have space, with due credit to the writer.
7. All the manuscripts submitted, will belong to and be the property of the Publisher of the *Agriculturist*, who will retain the right to publish any por-

tion of them in book or pamphlet form, when desirable. (At least three copies of any book or pamphlet published will be sent post-paid to each writer of any article therein published.)

8. If it should chance that only two or three articles, and these of but little value, are offered for any one of the subjects named below, the publisher will claim the right to withhold both the publication and the prize.

9. Each article to be accompanied with a sealed envelope containing the full name and address of the writer, the whole enclosed in a parcel marked on the outside "for Prize No. I, II, or III," etc., according to the numbers below, and sent to *Publisher of American Agriculturist*.

Specifications.

I. Winter Wheat.—Article not to contain over 20 foolscap pages—to embrace all items from selection of seed and the best varieties, to the marketing of the grain, including preparation of ground, time and mode of sowing, after treatment, insects, harvesting, threshing, etc. To be delivered on or before Sept. 1st, 1861. Prize \$25.

II. Rye—Winter and Spring, embracing same items as for Winter Wheat. Not to exceed 15 foolscap pages. To be delivered on or before Sept. 1st, 1861. Prize \$15.

III. Rearing and Fattening Hogs.—Not to exceed 15 foolscap pages. To include selections of breeds; best age for fattening; feeding; preparation of food, and time and manner of feeding, killing, salting, marketing, etc. To be delivered on or before Sept. 1st, 1861. Prize \$15.

IV. Winter Feeding and Care of Stock.—Not to exceed 20 foolscap pages. To embrace items of care and feeding of the various farm Animals, from Horses to Poultry. The more full the hints, the better. To be delivered on or before October 1st, 1861. Prize \$20.

V. Spring Wheat.—Not to exceed 15 foolscap pages. To embrace precisely the same items, (varieties, etc.) as for Winter Wheat (No. I). To be delivered on or before Nov. 25, 1861. Prize \$20.

VI. Oats.—Not to exceed 10 foolscap pages. To contain various items, from selection of seed and varieties, preparation of ground, best soils, time of sowing, and after treatment, through to marketing. To be delivered on or before Dec. 2, 1861. Prize \$15.

VII. Indian Corn.—Not to exceed 20 foolscap pages. To contain the various items, preparation of ground and seed, time and mode of culture, enemies, gathering, storing, and marketing. To be delivered on or before Dec. 2nd, 1861. Prize \$25.

VIII. Apples.—Not to exceed 20 pages foolscap. To embrace various items, best varieties of sweet and sour, Summer, Fall, and Winter; preparation of soil, time and mode of planting, treatment of trees, insect enemies, gathering and marketing fruit, etc. To be delivered on or before Dec. 2nd, 1861. Prize \$20.

IX. Peaches.—Not to exceed 12 pages foolscap. To embrace varieties, planting, treatment of trees and fruit, diseases, marketing, etc. To be delivered on or before Dec. 2nd, 1861. Prize \$15.

X. Blackberries and Raspberries.—Not to exceed 15 pages foolscap for the two. To include different varieties, value, soil, preparation, propagating, planting, after treatment, picking, marketing, drying, wine-making, etc. To be delivered on or before Dec. 2d, 1861. Prize \$20.

XI. Family Vegetable Garden.—Not to exceed 25 foolscap pages. To embrace directions for soil and location; one list of standard products; a second list of desirable products, and a third embracing rarer plants or those required for a complete garden, with notes on new sorts; time and mode of raising, with brief directions—in short just such directions as an experienced cultivator could give to a green city neighbor who had settled near him, and came daily for all kinds of information. To be delivered by Dec. 2d, 1861. Prize \$25.

XII. Flower Garden.—Not to exceed 20 foolscap pages. To contain similar items as for Family Vegetable Garden—adapted to the wants of a "new

hand," or a family just commencing to raise flowers and wishing to get up either a small or a complete collection for private grounds. To be delivered on or before Dec. 2nd, 1861. Prize \$25.

Population of the United States in 1860.

The following statistics, which have been compiled for the *American Agriculturist* from the Census Report of 1860, and that of 1850, will be found useful for reference. The figures are below the truth, for the reason that the Census Marshals, as a class, were appointed from political favorites—and generally from the least efficient of the party hangers on, whose "claims" for services had been hitherto ignored. It is not to be expected, therefore, that there was anything like a full gathering of the number of persons, or of the actual amount of different productions. It is probable that the actual population was nearly thirty-five millions last year, and over that now. But since the previous census was similarly taken, the figures showing the ratio of increase are nearly correct:

EIGHTH CENSUS—1860.

Free States.	Whites.	Free Colored.	Total.	Tot. in 1850.
California.....	376,200	3,816	380,016	92,597
Connecticut.....	451,609	8,542	460,151	370,792
Illinois.....	1,704,684	7,069	1,711,753	851,470
Indiana.....	1,340,073	10,869	1,350,941	988,416
Iowa.....	673,925	1,023	674,948	192,914
Kansas.....	106,487	623	107,110
Maine.....	627,081	1,195	628,276	583,169
Massachusetts.....	921,611	9,454	1,231,065	994,514
Michigan.....	742,289	6,523	748,812	397,654
Minnesota.....	161,793	229	162,022	6,077
N. Hampshire.....	325,622	450	326,072	217,976
New-Jersey.....	647,084	24,947	672,031	489,555
New-York.....	3,839,544	47,998	3,887,542	3,097,394
Ohio.....	2,303,374	36,225	2,339,599	1,980,329
Oregon.....	52,343	121	52,464	13,294
Pennsylvania.....	2,849,997	56,373	2,906,370	2,311,786
Rhode Island.....	170,703	3,918	174,621	147,545
Vermont.....	314,534	582	315,116	314,120
Wisconsin.....	774,392	1,481	775,873	305,391
Total.....	18,683,344	221,738	18,905,082	13,454,293

Union

Slave States.	Whites.	Free Colored.	Slaves.	Total.
Delaware.....	90,697	19,723	1,798	112,218
Kentucky.....	990,077	10,146	225,490	1,225,713
Maryland.....	516,128	8,718	87,188	682,034
Missouri.....	1,064,369	2,983	114,965	1,182,317
Territories.....	208,233	299	63	208,595
Dist. Columbia.....	60,788	11,107	3,181	75,076
Total.....	2,860,392	127,976	432,685	3,420,053

Seceding States.

<i>Seceding States.</i>	<i>Whites.</i>	<i>Free Colored.</i>	<i>Slaves.</i>	<i>Total.</i>
Alabama.....	526,534	2,630	435,132	964,296
Arkansas.....	324,186	137	111,104	435,427
Florida.....	77,778	908	61,733	140,419
Georgia.....	591,638	3,459	402,232	1,057,229
Louisiana.....	357,642	18,638	333,010	709,290
Mississippi.....	353,969	731	438,696	793,396
North Carolina.....	631,489	30,097	331,081	992,667
South Carolina.....	291,623	9,648	402,541	703,812
Tennessee.....	826,828	7,235	275,784	1,109,847
Texas.....	421,411	339	180,682	602,432
Virginia.....	1,047,613	57,579	490,867	1,596,079
Total.....	5,450,711	131,401	3,520,909	9,102,021

SUMMARY.

White Population.	1860.	1850.
In Free States.....	18,683,344	13,258,031
In Union Slave States and Terr.	2,860,292	1,933,371
In Seceding States.....	5,450,711	8,341,948
Free Colored.	1860.	1850.
In Free States.....	221,738	196,202
In Union Slave States and Terr.	127,976	115,484
In Seceding States.....	131,401	122,702
Slaves.	1860.	1850.
In Union Slave States and Terr.	432,685	394,771
In Seceding States.....	3,520,909	2,509,303
Total in all States and Territories.	18,905,082	13,454,293
Whites.	1860.	1850.
Whites.....	26,994,347	19,553,350
Free Colored.....	481,115	434,448
Slaves.....	3,933,567	3,304,313
Total Population.....	31,429,049	23,192,112

Increase of whites in 10 years.....	7,442,781
Increase of free colored in 10 years.....	46,666
Increase of slaves in 10 years.....	751,274
Total increase of population.....	8,240,721

Percentage of Increase in ten years.

Whites.....	38.06 per cent.
Free Colored.....	10.74 per cent.
Slaves.....	23.38 per cent.
Total increase.....	35.56 per cent.

Taking the above figures as the basis, and allowing the same ratio of increase (35.56 p. cent.)

for the next ten years, the population of this country in 1870 will be 42,605,220; in 1880 57,755,634; in 1890, about 78,393,557; and in 1900 over 106,000,000. It is probable that as the country is filled up, emigration will decrease, and the ratio of increase be smaller; yet there is little doubt that those who live thirty-nine years, or until 1900, will witness a population in the present territory of the United States, of over One Hundred Millions!

Experiments with Manures on Corn.

Dissolved Bones—American Guano—Poudrette—Coarse Bone Dust—Muck saturated in the Barn yard Liquid—Yard Manure—Value of Manure Washings.

The relative value of the various fertilizers offered in the market, is a question of no little interest to those who can not manufacture in the barn-yard all the manure they need. The trial detailed below, may be taken as one of the many experiments required to settle the question for different soils. The land consists of between three and four acres; the first planting of May 18, with the Improved King-Philip Corn, was on sod land broken up two weeks previously, and probably had never been manured. The second planting, of May 23d, was on a portion of the same field which has been in potatoes for two years past. To avoid as much as possible the differences arising from variation in soil, successive strips of three rows were taken for each fertilizer, the same kind coming in more than once. The ground was furrowed out with a small plow, the fertilizers scattered uniformly along the furrows, and the corn dropped upon them, in drills, and covered. We give the appearance of the corn from careful observations made July 12. The results when the corn is husked may vary from the present appearance. If so we will report, and the interested reader will please preserve this article, to save the necessity of our repeating the particulars.—We used a larger amount of the several fertilizers than is usually recommended, because we could not afford to lose the crop in hazardous experiments. We now wish the poorer portions were smaller, and that more of the field had been treated to yard manure; it would have been a good many dollars saved.

The dissolved bones is the article sold by Lester Brothers, as superphosphate of lime, and is really a superphosphate made simply by dissolving unburned bones in sulphuric acid. The term superphosphate is usually applied to a preparation of burned bones, which is a very different article, for we consider the organic matter burned out, as the really valuable portion of the material. It costs about \$3.50 per barrel.

The American Guano was forwarded to us by Mr. Sardy, and was, of course, as good an article of the kind as there is in market. Price about \$3.50 per bbl. The poudrette was purchased of the Lodi Company at \$1.50 per bbl. (the price in quantities of 7 barrels or more).

The Bone-dust was the fine crushed, but coarser than the bone sawdust, which would have been far preferable, if it could have been obtained. It would average about the size of peas. Cost about \$2.50 per barrel.

The Muck used was dug out last Summer; carted in during February, and mixed with lime; and saturated with thin manure water in April, by pumping the liquid from the manure cellar, and sprinkling it over the heap by means of a hydropult, with long India rubber suction pipe attached.—It should be stated that the liquid used was not the usual strong drainage of a heap.

The barn cellar was about half full of horse and cow manure, litter and muck from the stalls, and the sink slops from the house. The breaking of an adjoining cistern filled up the cellar with water, and this water after soaking the manure for a few days, was pumped out upon the muck. It could hardly be called colored water, as at the bottom a pail was visible in it at the depth of seven inches. We state these particulars to indicate the value of even dilute rain washings from the manure heap, as shown on plot 13 below.

The yard manure was a compost of horse and cow manure, litter, muck, and cotton seed.

PLANTED MAY 18—APPEARANCE JULY 12.

Plot 1.—Superphosphate (unburned bones dissolved) applied at the rate of 6½ bbls. to acre. Corn 4½ feet high and vigorous.

Plot 2.—American Guano applied at the rate of 6½ bbls. to acre. Corn 3 feet high, moderately vigorous.

Plot 3.—Poudrette applied at the rate of 6½ bbls. to acre. Corn 3 feet high, not quite so vigorous as No. 2, but nearly so.

Plot 4.—Superphosphate, same quantity as No. 1, and similar results.

Plot 5.—Poudrette, 10½ bbls. to acre. Corn 3½ feet high, in fair vigor.

Plot 6.—American Guano 6½ bbls. to acre. Corn 3½ feet high, moderately vigorous.

Plot 7.—Coarse Bone-dust, 10 bbls. to acre. Corn 3 feet high, moderately vigorous.

Plot 8.—Poudrette, 10½ bbls. to acre. Corn 3½ feet high, looking well.

Plot 9.—Poudrette, 7 bbls. to acre. Corn 3½ feet high, moderately vigorous.

PLANTED MAY 23—APPEARANCE JULY 12.

Plot 10.—Poudrette, 8 bbls. to acre. Corn scarcely 3½ feet high, only in moderate vigor.

Plot 11.—Superphosphate, 4 bbls. to acre. Corn 4½ feet high, vigorous growth.

Plot 12.—American Guano, 4 bbls. to acre. Corn 3½ feet high, in fair vigor.

Plot 13.—Muck soaked in manure liquid; a medium shovelful to 3 feet of drill. Corn full 5½ feet high, and very vigorous!

Plot 14.—Stable compost, shovelful to 3 feet of drill. Corn 5 feet high, and nearly as vigorous as No. 13.

The results speak for themselves; the difference in the appearance of the successive plots can be seen fifty rods distant. But there is a drawback to these experiments. The fertilizers were put on by measure, and the cost of an equal bulk was very different for the several kinds. It was a serious mistake that an equal cost of each kind was not used on each equal plot, as we intended. Still, the experiments are instructive. Thus, comparing No. 1, No. 8, and No. 9, we find that there is a marked difference between No. 1 and No. 9, in favor of the dissolved bones; while in No. 8, the increase of the amount of poudrette increased the growth a little. In No. 2 and No. 3, nearly equal quantities of American Guano and Poudrette, produced about the same results, which is of course in favor of the cheaper article. In No. 7, the large application of coarse bone dust was of comparatively little utility—it was not fine enough to be immediately used by the roots.

In No. 10, No. 11, and No. 12, the result is in favor of the American Guano, as compared with the poudrette, but very decidedly in favor of the dissolved bones (superphosphate) as compared with both of the others. The costs of the fer-

tilizers on No. 11 and No. 12 was about the same; that of No. 10 a trifle less. No. 13, and No. 14 show the decided superiority of the stable manure; while No. 13 indicates the great value of liquid manure or manure washing. Here was applied simply muck saturated with weak washings, and yet the corn at this date (July 12) stands up to our eyes, so vigorous that we are thinning it out to give room for the stalks to grow, and looking down upon the comparatively weak growth of stalks furnished by the foreign fertilizers, and even crowing over its neighbor on the solid yard manure. If this plot could be seen by every farmer in the land, we think no more manure heaps would be left to leach away their precious life blood by rains, in the liquid streams flowing from so many barn yards.

Draining—Why—Where—How.

(Continued from pages 36, 70, 105, 137, 163, 201).

The drain tiles described in the last chapter, are all made of common brick clay and burned in kilns the same as bricks. When in the ground they are kept continually moist, and it is important that they be well burned, otherwise there would be danger of their crumbling in course of time. It is well known that hard burned brick laid in a damp wet soil, have remained sound thousands of years, and so drains of hard burned tiles will doubtless remain permanently effective, so far as decay is concerned. They may be clogged by deposits of soil, oxide of iron, carbonate of lime, or roots of plants.

Nearly a hundred different kinds of machines have already been contrived for the manufacture of tiles, in England, France, Germany, and in this country, and improvements are constantly being made to secure efficiency and cheapness. We have given engravings and descriptions of two of the most recent and complete of these machines. See Nov. 1859, (Vol. 18, page 325) and Feb. 1860 (Vol. 19, page 44). The two described, and a few others, grind the clay and make the tiles. Others are only adapted to forming the tiles after the clay is prepared as for manufacturing brick. To answer the queries of some, and gratify the curiosity of others, we will state that in all of the tile machines, or in nearly all of them, the clay after grinding is forced through apertures in a plate so that it comes out in a continuous tube or other form upon an endless apron, on which it is cut up into the desired lengths, then dried and burned like brick. Fig. 23 shows one of these plates which is placed upon the side of a box containing the prepared clay. It will be seen that an opening is made through the plate of the form of the exterior of the tiles: *h*, for horse-shoe



Fig. 23—INNER SIDE OF PLATE FOR SHAPING TILES.

tiles; *s*, for sole-tiles; and *p*, for round pipe-tiles. For the inside form a core is adjusted upon a support. The arm or support is so arranged that it does not prevent the clay from closing around it, and thus a perfect tube is formed. These plates are provided with from two to four openings, of any form and size desired. The box being filled with a quantity of

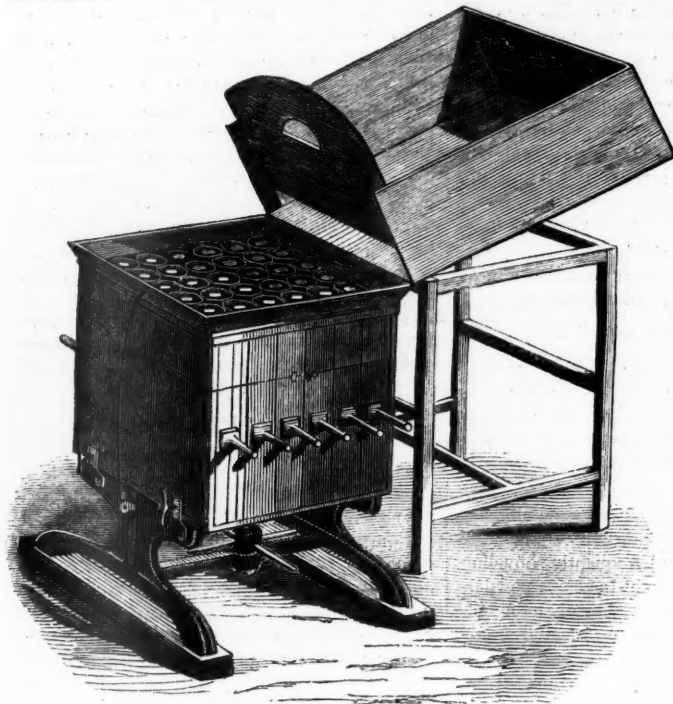


Fig. 24—APPARATUS FOR MAKING CEMENT TILES.

clay, the top is closed and a piston drawn in from the rear forces out two, three, or four continuous tiles. Perhaps one or more of these machines will be described at another time. (We would be glad to hear from any of our readers who have used, or seen used, what is called the "Buckeye Tile Machine," a very simple cheap affair, said to be effective.)

CEMENT DRAIN TILES.

There have been on exhibition at some of our fairs sundry drain tiles made of "hydraulic cement," but partly from the appearance of the specimens, and perhaps partly from the reticence of the exhibitors, we were not favorably impressed with them. We learn, however, that improvements have recently been made, and shall investigate further and report, if there appears to be anything valuable. In the meantime, we present herewith, an article translated for the *American Agriculturist* from the leading *Agricultural Journal of France*. The accompanying cuts we re-engage from that journal.

From the "*Journal d'Agriculture Pratique*, April 20, 1861."

"There is found in the department of l'Isere a cement of great hardness and consistence which is in great demand for buildings. The brothers Durand, of Grenoble, conceived the idea of using this cement for making drain tiles, and have arrived at satisfactory results. They have invented a machine with which the pipes can be molded very rapidly; it requires only a quarter of an hour by this process to obtain solid tiles, the durability of which is almost without limit. The complete apparatus of M. M. Durand, is represented by fig. 24, and in vertical section by fig. 25. It is simply a wooden box in which are placed moulds of a hexagonal form. This box can be taken to pieces. By simply loosening the screws shown in the figures 24 and 25; the whole side can be removed by the bowed handles represented in the engravings. The first row of moulds is thus exposed which can be taken off. We can then take off the successive rows of moulds by the handles shown on each one. The cores, which form the cavities

of the tubes, are each supported by a cast iron sockle or pedestal, which can be raised or lowered by means of a screw as shown underneath.

To operate the machine, the different series of moulds are placed in the box, the screws tightened on the sides—and the height of the bench regulated by the screw, so that the upper ends of the cores shall not be above the level of the moulds. In the upper compartment (shown turned back in fig. 24) is then placed equal parts of sand and cement previously mixed with a suitable quantity of water. It will take nearly five minutes for cement

to begin to set. The slide of the compartment is then raised up, and the contents flow into the moulds beneath and completely fill them. In ten minutes more the operation is finished. The apparatus as seen from above, presents the appearance of fig. 26, in which the tiles are represented by the shaded parts. The screws are now loosened and the series of moulds are successively removed, and each tile separately detached and slipped it off from the core around which it is formed. The tiles are about 13 inches long. In fig. 27 is shown both the exterior and interior form.

The machine of M. M. Durand, despatches work rapidly but requires a cement which sets quickly, and consequently can not be made use of everywhere. It will be very useful in those

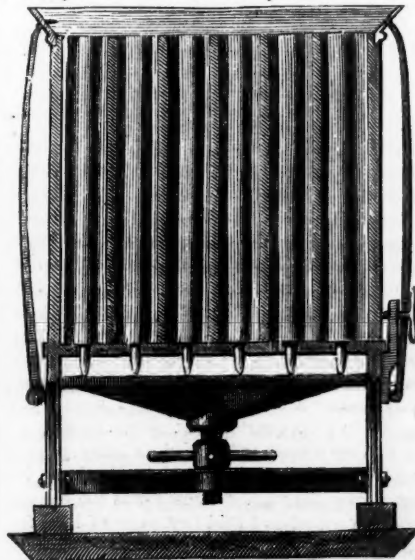


Fig. 25—VERTICAL SECTION OF THE APPARATUS.

countries where this material is of low price. A committee appointed by the agricultural society of Grenoble to examine the new drain-tiles, have reported favorably in regard to them. They consider drains from cement tiles far preferable to ordinary drains; these tiles are straighter and

more regular at the ends and by reason of their form are more easy to lay. They cost 30 francs (nearly \$6) per 1000 when laid, and 1000 tiles weigh 800 kilogrammes (about 1765 lbs., or 14 lbs. each). The diameter of the tiles is not given.

The machine of M. M. Durand, has the patronage of M. Paganon, President of the agricultural Society of Grenoble, who has given an interesting notice of it in one of the late numbers of the '*Sud-Est*.' The machine could have been seen in operation at the "Concours General," of Paris, in 1860, where it was exhibited by the inventor.

A. DE CERIS."

REMARKS.—The above article gives us no particular description of the kind of cement used, further than that it sets quickly, or in 15 min-

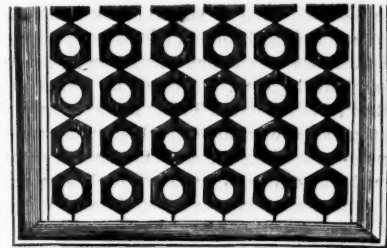


Fig. 26—END VIEW OF TILES IN THE FRAME.

utes from the mixing. Probably any of our good hydraulic cements would answer, since the difference between setting in 15, 20, or 45 minutes could be remedied by using two or three cheap machines instead of one. Any fair quality of cement which will harden under water, will answer for making tiles that will be permanent under ground. The question of cost is one we can not determine readily. As near as we can estimate, one barrel of hydraulic lime with a



Fig. 27—FORM OF A TILE.

little more than one barrel of sand, will make about 300 round tiles three inches outer diameter, the rim half an inch in thickness. The cost of the "Rosendale Cement" (or hydraulic lime) which is considered the best in this market, is \$1 25 per bbl.—probably less when taken in quantity. Call it \$1 20, and the cost of the 8½ barrels of hydraulic lime for 1000 tiles would be \$4 00. The sand, hauling, etc., may be put at \$1, making the cost of materials on the ground \$5 for 1000 tiles. Probably \$5 is a liberal allowance for the average cost of materials in most parts of the country.

The next question is, can or can not the tiles be made on the farm cheaper than to buy clay tiles at \$8 per 1000 at the yards, and transport them home. Smooth straight tiles are far preferable to burned clay tiles which are more or less crooked, though this is not so great an objection when collars are used. We confess to a hope that the cement tiles will yet prove to be profitable, especially in those places where hydraulic lime is accessible. Will not some of our ingenious readers experiment on the subject? With the accompanying engravings it will not be difficult to get up some cheap form of a machine to mold the cement tiles. We shall endeavor to try the experiment, if we can find time. If the machines come into market in France, we shall certainly import one, but in the meantime our Yankees can doubtless get up a better one.

The descriptions and the engravings are for hexagonal tiles. If made with collars, as recommended last month, the round form will be just as good, and require less materials.

Muck! Muck!! Muck!!!

In every pestilential swamp, in every hollow of forest ground, in sunken spots of the open fields, and beside many a highway, lies a deposit upon which the cultivator may draw "at sight" for capital to improve his grounds. Consider a few easily understood and undisputed facts, and then decide whether too much stress is laid upon the word *muck*, so often repeated in these columns. First, look at the fertility of what are called virgin soils—grounds where the forest, or the prairie sod had been undisturbed for ages, until the advancing settlers felled the trees or broke up the sods, and reduced them to tillage. Such fields should scarcely be called *virgin*, for they had brought forth and nourished hundreds of generations of trees and shrubs and grasses. These, in their decay, deposited upon the soil all they had drawn from it, and more; the wood and the leaves, were almost wholly made up of elements taken from the air in the form of gases, either directly through the leaves, or dissolved in water and absorbed by the roots. So each falling tree and each withering spire of grass enriched the soil. When wheat or corn took the place of the forest and the prairie grass, it found sustenance that had been laid up in store during centuries, and the cultivator reasonably expected thirty bushels of wheat and fifty or more bushels of corn from each acre, if the season were at all favorable. Besides the nutriment afforded by the decaying vegetable matter left in the ground, its presence materially benefited the mechanical texture of the soil, rendering it light, friable, porous, and warm, giving the prime conditions for luxuriant growth of all plants. Years of cropping have worked a great change on such soils. Repeated plowing exposes fresh surface to the air year by year, decay of vegetable matter is greatly hastened, part of it is taken up by growing plants, the balance passes off to mingle with the air, and thus in no very long period an unfed soil becomes lean and unproductive.

Now pass to the muck bed, and what have we there? The swamps, lying in the lowest levels, have from time immemorial been receiving deposits of loose vegetable matter washed down from surrounding forests. Much of it has been preserved from decay by being kept under water, until there may often be found from three to ten or more feet in depth of the very substances which have given such fertility to virgin soils. Is it not the plainest dictate of common sense to remove this mass which now nourishes only rank weeds, and exhales malaria, to the fields which have lost their "virgin" power? In addition to the accumulations in swamps, all low lying spots which receive wash from the neighboring region, will contain more or less muck. Every shower carries to them a deposit of loose surface matter, sometimes from a large area. There are thousands of acres of what are termed swales, scattered in detached portions over the farms of this and adjoining States, which from a plethora of fertilizing matter, grow rank grasses and weeds, fit only for litter or the compost heap. The waste plant-food they contain, if returned to the lands which have lost it, would greatly increase their fertility.

Muck is needed on the fields not only for the elements it contains, but as an economizer of barn-yard manure. It is safe to estimate that from one third to one-half the manure produced by animals is lost. The urine of horses and cattle is almost universally wasted. Then, the solid excrements are too generally thrown out into

the open yard to be leached by every rain, or they are heaped under the stable window, to ferment and "fire-fang," and send off their most valuable properties with every passing breeze. Muck, collected seasonably, and subjected to the action of the weather, is of loose porous texture, exactly fitted to absorb and hold these liquid and gaseous elements. A layer of muck in the stable, saturated with urine, is nearly as good as the best solid excrement. A cord of muck thoroughly mixed with a cord of animal excrement, will make two cords of manure worth almost twice as much as the unmixed excrement if left to leach and ferment in the usual manner.

Another very important use of this substance, is to aid in reducing manure to a finely divided state. Manure scattered upon the field in lumps and plowed in, will give a surfeit to the roots that come immediately in contact with it, and leave others less fortunate to starve. Witness the surface of a pasture where cattle droppings have been left as they fell. It presents blotches of rank growth here and there. By composting or mixing with muck, and frequently shoveling over, manure may be brought to coarse powder, the particles of which, scattered through the soil, will be readily accessible to plants, and easily soluble, so that they are quickly prepared for absorption by the growing roots.

The interval between harvest and Fall plowing affords an opportunity for commencing to practice what these facts call for. The swamps are many of them dry and firm; the "swales" have been cut, and other farm work is not pressing. Try the experiment for once at least. Draw from the most available source one load of muck for each load of barn yard manure you expect to produce the coming Winter. Store it in heaps convenient to the yard. If wet, let it remain undisturbed until well dried. Then add a half bushel of lime or ashes to each cord of muck, and mix thoroughly. When Winter comes on, and the stock are brought to the yards, it will be ready for use. Try it once on our recommendation, and when next year's crops are gathered, let us hear the result.

Tim Bunker on Top-dressing and Feeding Aftermath.

A SECOND LOOK AT HOOKERTOWN IMPROVEMENTS.

"Bigger than 'twas last year," said Seth Twiggs, as he looked over into the horse-pond lot where I was mowing this morning.

"I declare it looks like a rye field," said Mr. Spooner, as he measured a head of herds-grass ten inches long, by a small rule that he carries in his pocket. A mighty accurate man, is Mr. Spooner. I expect he gets in the way of exact speech, studying his sermons, for he makes the joints fit so close, that they won't leak water. When he says ten inches, you may know it ain't a sixteenth short. I should expect to find it a quarter over.

"You see it is up to the Squire's breast, plump four foot high," exclaimed Jake Frink, as he leaned over the wall. "Guess I was the biggest fool in town when I sold that piece of land for a song."

"Not half so big a fool then as you are now, for keeping the better half of your farm as starved as this was three years ago," I replied.

It is curious to see how the minds of some people work. They see no beauty, or value, in any thing until it has passed out of their hands, and begins to show its good points under different treatment. This two-acre lot, that was al-

ways a quagmire and an eye-sore to the neighborhood, when Jake owned it, is now a very charming spot, as the grass turns out three tons to the acre. It never paid him the interest on ten dollars an acre. It pays me ten per cent on three hundred, to say nothing of the satisfaction of turning a swamp into a meadow.

Seth Twiggs is right, about the size of the grass, and yet I have done nothing extra for it this year. To be sure the season has been more moist, but that hardly accounts for the difference. You see, in draining a piece of wet land two or more feet deep, you bring a large quantity of surface soil gradually to the action of the atmosphere, and of the rains and frosts. It undergoes a curing process, and the soil improves, year by year, until the water line is reached. This is the third crop I have got off of this lot since I put the drain down, and each year has been a marked improvement upon the last. I suppose I might cut a second crop if the lot was not so handy for pasturing.

And then I have noticed that it is a good plan to feed and mow alternately. I much prefer to mow a common meadow one year, and pasture the next, than to mow straight along for four or five years, as most farmers do. If a meadow is very rich, like this drained lot, I think it does better to feed the second crop, than to mow it. If it produces a ton and a half at the second growth, as I think it will, of course so much is returned to the soil in the manure of the cattle. And then I have another important advantage in the seeds of the clover that are scattered by the cattle. I have noticed that the second growth of clover starts immediately, and as I do not turn in until the last of August, many of the plants, both of the white and red, go to seed, and are scattered before the cattle eat them. I do not believe in feeding late, but leave time for the grass to make a good covering for the roots. As a result of this treatment, I find that clover does not die out the first year as is usual. I have a good deal of clover in fields sown three years ago. Other grasses are benefited in the same way, and the sod remains thick and strong. I have sometimes thought that the feet of the cattle acted like a roller, pressing the seed into the soil. At any rate, the fact is as stated, and I do not mow any second crop, where I can pasture it. I don't think second mowing pays best.

"Have you got rid of 'em?" asked Jake Frink, as he looked over into Uncle Jotham Sparrowgrass' reclaimed bog.

"Rid of what?" asked Jotham with feigned astonishment.

"Why them pesky muskrats, that used to eat up all the outside rows of corn in your field and mine?"

"Haven't seen a musk-rat in these parts for well nigh two year. Have seen some corn, though, and occasionally a potato!" said Jotham, with a swing of his cane that showed he felt as if he was lord of all he surveyed.

He dug over three hundred bushels to the acre there last Fall, and the part now planted to that crop is as handsome as any thing I have seen this season. Uncle Jotham manages pretty well for an old style farmer, catching at any improvement with a good deal of eagerness, but stoutly denying that it is new. He has always seen something like it over on the Island, thirty years ago. He has had, this year, in about equal patches, potatoes, corn, oats, and clover, upon this deserted domain of frogs and musk-rats. The clover was quite too large for good fodder, or would have been, if he had let it grow till the usual time of cutting. But it was cut in June,

a thing he would not have thought of, three years ago, and he will have, at least, two tons at the second cutting, if he does not steal my thunder, and feed it off. But if he does that, he will be sure to state positively, that he knew Ben Woodhull, on Long Island, to do the same thing as long ago as when he was a boy.

Coming back to my horse-pond lot, Mr. Spooner had to ask "what makes that grass so much heavier on the back part of the lot? It is almost another story high."

"Well, you see, thereby hangs a tale. Last year, as soon as I got through mowing that part of the field, say about the tenth of July, I spread on a few loads of compost there, and you can see just where it stopped. The compost was made of pig-pen manure, with muck rather fresh dug. I had a good deal of query in my own mind about the best time of spreading manure on mowing land, and had pretty serious doubts about mid-summer, and feared the loss of ammonia, etc. This don't look as if the manure lost much of its strength. The rest of the piece was top-dressed in March, and it is not near as heavy. I am not prepared to say, exactly, that I think mid-summer is the best time, for I suppose the grass has not got all the strength of the manure put on this Spring, and another season, or the after feed this year, may make the case look different. I have no doubt the manure put on last Summer acted as a mulch, sheltering the roots of the herds-grass, which suffer extremely, and are often killed by too close cutting. The roots got strong and vigorous during the Fall, made a good math for protection during the Winter, and started early this Spring.

As advised at present, I should put manure upon any level piece of land, whenever I happened to have it. I think it will pay better interest on the meadow than in the yard, and accordingly I shall clean up this month, and spread every spare load I have upon the meadows. Cutting a ton of hay to the acre don't liquidate, when you can get three, just as easy, with more manure. Things are looking up notwithstanding the war. Breastworks will be plenty.

Yours to command,
TIMOTHY BUNKER, ESQ.

Hookertown, July 15, 1861.

For the American Agriculturist.

Something Better than Guano.

Don't be frightened, dear reader; we have no highly improved, excelsior, patent fertilizer to puff and to sell. What we speak of, every man may have in his garden, viz: the refuse of his brush-heap. For several years past, we have gathered heaps of small brush, weeds, prunings of evergreens, of grape vines, pear, plum, currant bushes, etc., into an out of sight corner, and at occasional intervals, have burned them. Piles of quack-grass, dock and Canada thistles, have contributed to the richness of the heaps. When convenient, we have carried into this corner, thick sods, and lumps of heavy clay, which, when partly dried in the sun and wind, have been laid over the burning heaps. The residuum of these frequent fires has furnished the material which we style "better than guano"—not better, perhaps, than guano when managed by experienced hands, but safer, and so better for popular use.

Nothing makes potted plants grow so splendidly as a handful or two of this article, mixed with common soil. If a favorite pear-tree gets lagging, it is sure to wake up and keep awake, if treated with our specific—the small and yel-

low foliage giving place to large and vividly green leaves. And so, for evergreens, grapes, melons, and the like, it does wonders. We only add that, after each bonfire, the refuse should be gathered up in barrels and kept dry. G.

Manure used on Long Island.

A writer in the Country Gentleman says, "The amount of manure used in Kings and Queens Counties, N. Y., is almost incredible. In addition to what we make at home, from the best estimate I can make, we must purchase no less than two millions of carman loads annually, and probably exceed this amount, adding other fertilizers to the account. John Johnston of Geneva, N. Y., felt sure it would not pay to purchase manures at the present prices, but although it does frequently appear so to us, yet the facts are to the contrary. He that manures the best, but not in excess, succeeds best in farming, and to do that, manure from the city must be bought."

We can fully credit the above estimate from our own observations. Every day in the year long lines of wagons loaded with New-York stable manure may be seen crossing the ferries to Long Island, there to be manufactured into vegetables, grain, and hay for the City market. One farmer said, "we ride manure one half the time and garden truck the other half." In addition to this, hundreds of sloops and schooners are constantly plying back and forth, laden with street sweepings and offal, which sell readily for cash to cultivators. The best comment on such an outlay for manure, is the fact that the farmers and market gardeners of Kings and Queens Counties are getting rich farms, great crops, and full purses.

The New Insect in Rye.

BY DR. ASA FITCH, N. Y. STATE ENTOMOLOGIST.

To the Editor of the American Agriculturist.

The insects coming from the rye straw which you received from Pennsylvania, and forwarded to me the commencement of the present month, were new to me, and having completed my examination of them, I now communicate to you the result.

I will first describe the diseased appearance which this and kindred insects produce in the straw of the different kinds of grain which they attack. Just above one of the lower joints of the straw, a swelling or enlargement occurs, which is more or less prominent as the number of insects nestled within, is greater or less. The straw, it will be observed, near the joint, is composed of two distinct parts, a central hollow stalk, and a sheath surrounding it—this sheath commences at the joint, and at its upper end separates from the stalk and forms a leaf. Now, on parting this sheath at the swollen part, the disease is found to be seated, not in it, but in the central stalk inside of it. This presents an uneven surface, knurly or knotty in its appearance, with several elevated smooth spots like blisters, between which the longitudinal veins or tubes which are naturally straight and parallel with each other, are seen to be curved, crowded together, and variously distorted. On cutting into the glossy elevated spots, a small cavity is there found, in which lies a soft white footless worm, perfectly quiescent and seemingly lifeless. In the straw sent me, these worms had completed their growth, and were already changed into small black flies, which were

gnawing out of their cells, leaving a perforation like a pin-hole in the straw, wherever one of them had made its exit.

The insects have four clear glassy wings, which are destitute of veins, except a short coarse rib-vein near their outer edge, and their antennæ are elbowed or flail-shaped, like those of the bee and ant. They pertain to the Order *Hymenoptera*, and the Family *Chalcididae*.

Our best authorities in Entomology, inform us that the insects belonging to this family are all parasites, living upon other insects, and not on vegetation. Their habits are the same as those of the family of Ichneumon flies, next to which they are placed in our books. The fly, with its sting, pierces the skin of caterpillars and other larvæ, inserting an egg therein, from which a maggot hatches, which feeds internally on the larva, until it kills it. And by thus destroying insects which are injurious to us, they are to be regarded as friends and not enemies to man.

But in our American grain fields, we are now well assured, some of these Chalcidian insects occur as vegetable feeders, themselves injuring and destroying the grain, and not as parasites destroying other insects nestled in the grain. The evidence on this subject is of sufficient interest to be briefly narrated in this place.

For several seasons, about the year 1830, the barley crop, in the North-eastern counties of Massachusetts, was greatly injured by a disease at the lower joints of the straw, the same as that which I have described above. Some of this straw was sent to the late Dr. T. W. Harris, from which he obtained a number of these Chalcidian insects, which he described under the name *Eurytoma Hordei*, he supposing them to be parasites, which had destroyed all the real depredators in that parcel of the straw.

Some ten years since, public attention became directed to an insect called the Joint worm, in the wheat of Virginia, devastating this grain to such an extent as to wholly destroy the crop in some fields. A parcel of the diseased straw was sent to Dr. Harris, who divided it, and forwarded to me the larger portion. We together bred upwards of a hundred and twenty flies from it, which were so closely like that in the barley above alluded to, that we both concluded they were mere varieties of one insect. And now, as we obtained no other insect therefrom to which the disease could be imputed, our convictions became strong that this insect was not a parasite, but was itself the real culprit. I have since received similar straw from Virginia and from Maryland, without obtaining any insect save this therefrom, and other persons who have also bred the Joint worm to its perfect state, have had the same result.

For five years past, the barley crop in Onondaga and the neighboring counties of our own State, has been much injured by this same malady in its straw. I have received parcels of the affected straw from Hon. George Geddes, L. Lincklaen, Esq., of Cazenovia, and others, from which a host of these Chalcidian flies, and nothing else, have been obtained. All doubts that it is these insects which cause this affection of the straw are thus dispelled, at least from my own mind.

I had confidently expected this barley straw from Central New-York would give me the identical insect which had infested the Massachusetts barley. But on coming to examine the flies it yielded, not one of them had the legs black, as they are described to be in that species. And now that I come to see in such a multitude of examples, that the legs of this barley fly, and

also of the Joint worm fly were constant in their colors, and not liable to vary, it became evident to me that these insects were not varieties of the Massachusetts barley fly, but were distinct species. I accordingly named and described them as such, two years since, in the Journal of the N. Y. State Agricultural Society, vol. ix, p. 115. And to these is now to be added a fourth species, this in the rye, which I propose to name the Rye fly, *Eurytoma Secalis*.

These four insects all affect the growing grain in the same manner, and are closely alike in their size and colors. They resemble small ants, black and shining, one-tenth of an inch in length, or slightly over. In all of them the feet are dull white, with their ends black, and their knees are dull pale yellowish. They are readily distinguished from each other, on carefully inspecting the color of the shanks of their forward, middle, and hind legs, with a magnifying glass, which will show them to differ as follows:

The BLACK-LEGGED, or Massachusetts BARLEY-FLY, (*Eurytoma Hordei*, Harris,) has the shanks of all the legs black.

The JOINT-WORM FLY, (*Eurytoma Tritici*, Fitch), has the shanks of the forward legs dull pale yellow, the others black.

The RYE FLY, (*Eurytoma Secalis*, new species,) has the fore and hind shanks dull pale yellow, and the middle ones black. Of this I have fifteen specimens now before me. The hind shanks are dusky and less bright than the forward ones, but are manifestly paler than the middle ones.

The YELLOW-LEGGED, or New-York BARLEY FLY, (*Eurytoma Fulvipes*, Fitch,) has all the shanks, and also the thighs, of a brighter tawny yellow, or pale orange color.

These insects, I have no doubt, pierce the green stalks of the grain with their stings, and insert their eggs therein, one in a place, just above the lower joints, and from these eggs come the worms which we afterwards find there on dissecting the straw.* The males are much less numerous than the females, and are usually smaller in size, and have the abdomen or hind body oval and somewhat depressed or flattened. Hence I have doubted whether these insects rightfully pertained to the genus *Eurytoma*. I have never met with the species described by Dr. Harris, till three weeks ago, when several were gathered in a rye field in my neighborhood. In this species the abdomen of the male is strongly compressed, and it fully presents other characters of the genus *Eurytoma*, which are less evident in the other three species. Thus this point, which has given me much perplexity, is now made more clear.

I have only time and space to add, that these insects, or at least a considerable portion of them, remain in their cells in the straw through the Winter, to come out the following Summer, as soon as the grain crops on which they respectively prey are sufficiently grown to be adapted to their wants. These Rye flies, which we see already matured and coming out of the stalks early in June, probably insert their eggs for another crop in the same grain, the insects from which will be lying in the straw when it is harvested and threshed. The swollen portions of the straw are so hard and brittle that they mostly break off in threshing, and some of

* Since the above notes were written by Dr. Fitch, we have received additional specimens from Mr. Steck, accompanied by an account of further observations, which fully establish the correctness of Dr. Fitch's views. The eggs were readily detected with a microscope, within the excrecence on the stalk. Mr. Steck says he was in error as to the eggs being deposited on the leaf.—Ed.

them are broken into such small fragments that the fanning mill is unable to separate them from the grain. And probably the most feasible mode of combatting and destroying these insects, is, to burn the straw containing them. Is it not practicable, at harvest, to cut the grain so high up that these swollen, knotty portions of the straw will all be left in the field? If so, by afterwards burning the stubble, all the insects therein can readily be destroyed. A. FITCH.

Washington Co., N. Y., June 18, 1861.



The Seed Cut.

This apparatus is recommended by a subscriber as a convenient box for sowing seeds. It is in common use in some parts of England, and takes the place of a bag or bushel basket with us. It is described as a box twenty four inches long, about eight inches deep, each side to be ten inches wide at the widest part and diminishing to seven inches in the middle, the shape being oblong, rounded at the ends and deeply indented on one side, to suit the curvature of the workman's body. The materials might be such as are generally used in making cheese boxes. On the outside is attached a handle, like the nib or thole of a scythe stick, by which the left hand steadies the implement, and on the inside is a hook to receive a ring attached to a strap, or web, slung over the right shoulder, by which the seed cut is suspended. From this description it will be seen that the moon in its second quarter, with the horns rounded, gives one a good illustration of this vessel. It would be a very convenient article for sowing grain broadcast, and the hint is worth considering by manufacturers of agricultural implements.

Potatoes—Deep and Late Planting—Large Yield.

A. L. Folger, Rush Co., Ind., writes to the *American Agriculturist*, that he last year plowed and manured well a piece of land for potatoes, letting it lie until the middle of May, when it was thoroughly pulverized with roller and harrow. Deep furrows were struck out with a shovel (or double mold-board) plow, and large potatoes selected and cut up into small pieces, were dropped in the bottom of the furrow, six inches apart. These were covered with the plow nearly a foot deep. They were cultivated by running the double shovel-plow between the rows, and hilled twice with the hand-hoe. As the result, a portion was measured off and dug, and the yield was at the rate of 688 bushels to the acre! He asks if any one can excel that. [The account would have been more complete

and satisfactory, if Mr. F. had told us what kind of a soil he had, its previous treatment, the kind and amount of manure used, and the kind and quality of the potatoes grown. All these items are needed to make such experiments fully instructive to others.—Ed.]

For the American Agriculturist.

Steaming Soft and Frozen Corn.

As last Fall was wet and quite unfavorable for ripening the corn crop in this section, I had considerable that was unsound, and consequently not fit for market. In order to dispose of this to the best advantage, I bought four three-year old steers, the 12th of last Dec., to fatten. I made a tight box bound with hoop iron, large enough to hold one bushel of ears. In the bottom several half-inch holes were bored, and on the top of the same, inside of the box, I nailed a piece of tin, punched full of small holes. This box was set on a common kettle filled with water, and placed on the cooking stove. In two hours steaming, although the corn may be somewhat mouldy, it will become soft, cob and all, and smell like fresh green corn. I steamed in the morning, and let it stand in the box to feed at night, and fed it a little warmed, and sprinkled with salt; and then steamed at night for use in the morning.

I fed to the above number of steers two bushels of steamed ears of corn per day for sixty days, and never have had cattle do better when fed on corn meal. I have fattened more or less cattle for several years, and always feed all the grain or meal they will eat up clean.

Niagara Co., N. Y.

SUBSCRIBER.

The Hydraulic Ram.

A subscriber asks the following questions.

1. "Will a spring, the water of which runs in a $\frac{1}{4}$ inch pipe be sufficient to drive a Hydraulic ram so as to raise the water fifty feet within a distance of twenty five rods, with eight feet head?" Ans.—Here are all the conditions for the successful working of a ram.

2. "How much water would be discharged in 24 hours in such a case?" Ans.—This would depend upon several particulars not given in our correspondent's letter, as the length of the driving pipe, and the size of the discharge pipe, etc. It would be abundant for supplying water to the house, for all the animals kept upon the farm, with a surplus for watering the garden. A driving pipe weighing 2 pounds to the foot, and $\frac{1}{4}$ inch bore would be stout enough, and a discharge pipe $\frac{1}{2}$ inch bore weighing $\frac{1}{4}$ pound to the foot.

3. "What will be the cost of the ram, and is there any better way of raising water?"

This is undoubtedly the cheapest method of raising water yet discovered. Messrs. W. & B. Douglas of Middlesex Co., Conn., manufacturers of rams, can answer all questions in regard to the size wanted, price, etc. The smallest size costs about five dollars without the pipes.

COMMISSIONER TO THE WORLD'S FAIR.—The Secretary of the N. Y. State Agricultural Society has been directed by the Executive Committee to correspond with the Government at Washington, soliciting the appointment of a Commissioner to represent American interests at the great Exhibition to be held in London in 1862. This is done with a view to secure a representation of our agricultural, mechanical, and industrial interests at the Exhibition.

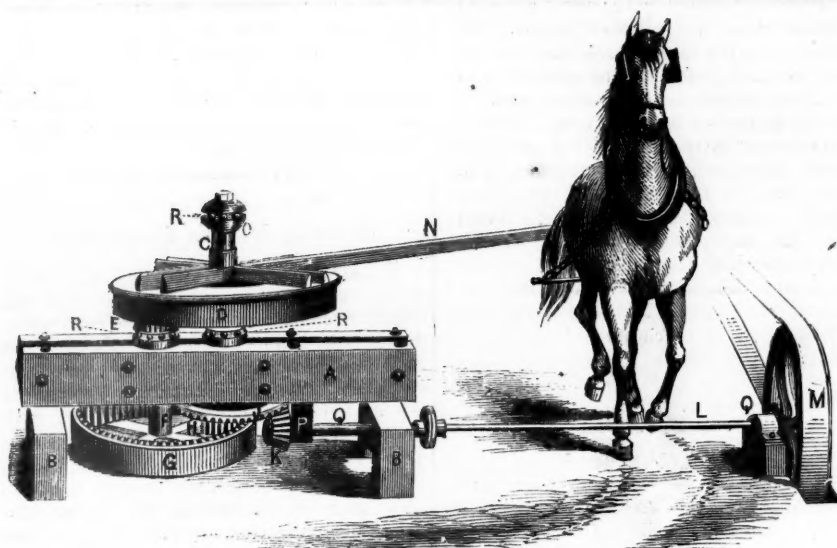


Fig. 1—SANFORD'S IMPROVED HORSE-POWER.

Farm Machinery.**SANFORD'S "ANTI-FRICTION" HORSE-POWER.**

The improvements constantly making in Steam Engines, tending to greater effectiveness, simplicity, and cheapness are bringing them into more general use, and doubtless the day is not distant when a large proportion of the heavier agricultural operations, such as plowing or soil-stirring, threshing, etc., will be mainly performed by steam. The single fact that the steam engine consumes no food when not at work, is a strong argument in its favor, as compared with horse-power, for work carried on at only occasional periods—though this is in part overbalanced by the consideration that horses or mules can be used for other purposes, when not required for temporarily driving machinery, and the interest on the capital invested in machinery standing idle much of the time, is thus saved.

That farmers, as a class, do not yet fully appreciate the economy of a good horse-power, is evident. Take a single illustration: Suppose 15 cords of wood to be consumed during a year on a single farm. To cut this with an ax fine enough for stoves, would require 15 days' work at least, worth \$1 a day, wages and board included. With a light horse-power geared to a circular saw, costing \$100 to \$125 all complete, a man with a horse would easily cut this amount of wood in two days at the outside, and do it in a better manner with far less waste of chips. Call the horse worth \$1 a day, or \$4 for the two days of man and horse, and there is still a saving of \$11—or enough to pay 7 per cent interest on an outlay of \$100, leaving \$4 for wear. The same power can, of course, be used for threshing and other work, making it of still greater value.

For small operations, we have esteemed the "rail-road horse-power" as on the whole the simplest and cheapest. But for a complete farm power, adapted to all sorts of work, threshing, wood cutting, ginning cotton, pressing hay, etc., where two or more horses are required, a heavier and more substantial power is needed; and for such a power there is, perhaps, none better than the one illustrated in the accompanying engraving. It has the merit of being strong, compact, readily moved about, and free from friction so far as possible. We append a brief

DESCRIPTION.—In fig. 1, the bed or main frame, A, A, is firmly secured to the bearers, B, B.

The driving wheel, D, turns upon the shaft of another wheel, J, below, which saves one shaft and secures compactness. A peculiarity of this power is the arrangement of round iron balls, R, R, at different points, to support the wheels and save friction. The placing of the cogs on the inside of the rim is claimed as another advantage, securing strength and compactness. It will be seen that the drive wheel, D, turns the



Fig. 2—HORSE-POWER FOR IN-DOOR USE.

pinion, E, on the shaft of the large wheel, G. The cogs of G, play into the pinion of J, while the cogs of J, play into the pinion, K, on the shaft of the band wheel, M. P, is a wrought iron "hanger," supporting the bearing, Q. The bearings subject to much friction are prepared with Babbitt's metal, which renders them very durable. The band wheel, or pulley, M, makes 52 rotations to one of the drive wheel, D. The size of M, is varied to give any velocity required.

For in-door work similar wheel work is used, but the central shaft is carried upward as shown in fig. 2, and the wheel, J, placed at any desired height. As above hinted, these powers are taken up and set down very readily, which is a convenience where portable power is needed. They are manufactured by Bennett Brothers, and the entire workmanship of all we have seen appears to be substantial and made upon honor. The price of the medium size, for one to three horses, is \$125, and of the larger size, for four to six horses, \$175.

What England Bought in Three Months.

In looking over the official tables of the value of sundry articles imported into England during the first three months only of the present year, and for the same period last year, it occurred to us that the readers of the *American Agriculturist* would be interested in examining a few of the figures which we have reduced to our currency. Take a common map of the world, and note the little colored spot about the size of the thumb nail allotted to our ancestral island, and then look at the following figures, showing the money value of a few items carried there in 90 days!

	Value—1861.	Value—'60.
Wheat and Flour.....	\$34,184,725	\$5,556,885
Indian Corn.....	4,339,640	1,696,650
Barley.....	4,048,030	3,161,980
Oats.....	926,110	762,360
Beans.....	967,045	710,145
Peas.....	670,385	245,595
Flax.....	1,555,035	2,323,400
Flax Seed.....	2,939,745	2,445,180
Hemp.....	776,735	755,255
Hides.....	1,666,140	2,571,575
Butter.....	3,807,900	3,424,560
Cheese.....	1,111,340	1,115,390
Rice.....	1,374,550	734,650
Sugars and Molasses.....	12,743,435	10,123,730
Cotton.....	45,266,945	54,065,565
Silk (Raw).....	10,801,705	11,420,840
Coffee.....	1,322,290	1,475,420
Tea.....	11,063,865	10,065,180
Tobacco.....	1,596,555	839,975
Wool.....	5,651,495	8,195,455
Tallow.....	1,587,460	1,289,200
Oil (Olive).....	1,653,135	2,681,240
Currants (dried).....	642,985	541,045
Raisins.....	447,615	244,670
Wines.....	4,501,400	3,943,030
Timber and Wood.....	3,627,965	2,450,215
Indigo.....	875,860	783,480
Guano.....	2,383,840	1,095,545
Nitrate of Soda (for manure).....	241,315	740,780
Oil Seed Cake.....	980,765	620,905
Total.....	\$163,706,020	\$135,709,930

One hundred and sixty three million dollars' worth of products imported during three winter months!—The marked increase in the imports of breadstuffs, (wheat and corn), will be specially noted, amounting to about \$40,000,000 for the quarter year. As this was all for home consumption, it indicates the effect of bad weather on a single crop upon a comparatively small area. Among other items of interest in the table, will be noticed the large amount of butter, cheese, wool, and tallow. Also the consumption of beans and peas, which are more highly esteemed in England, for feeding, than here. The same may be said of oil cake, and of flax-seed which is manufactured into oil and oil-cake. It will be seen that nitrate of soda is imported to a considerable extent as a fertilizer, the \$740,000 paid for it in three months last year, being equivalent to over twenty million pounds, or ten thousand tons. The \$2,383,840 paid for guano, is equivalent to about eighty million pounds, or forty thousand tons!

A CONSIDERATE WOMAN.—"Madam," said a gentleman to the mother of a noisy child, "a good many persons were disturbed by the crying of your child at the concert last night." "Well," replied the considerate woman, "I do wonder such people will go to concerts!"

Why Horses Kick—Rarey's Method of Cure.

Kicking is the worst vice which horses are taught. Few men will deny the first part of the assertion, but some will doubt that the vice is the result of education, for, say they, does not the horse kick by natural instinct, as a protection against enemies? Certainly he does, and if he is made to think (for horses do think,) that every touch upon his flank and hind quarters, and every rattle he hears behind him, are from an enemy, he will let drive in the most natural manner.

The character of a horse is established during the first four or five years of his life. If through accident or design, a colt be alarmed from behind a few times, particularly if he receive a sudden blow, he will learn to expect danger from that quarter, and to ward it off with his heels; and the finer and more spirited his organization, the more likely he will be to acquire the vice. For example, a young colt had become quite troublesome by entering neighboring fields, over the dilapidated fences of his owner. After repeated annoyance, and much vain expostulation, one of the aggrieved parties caught the colt while trespassing, fastened a tin pan to his tail, and turned him loose. Away went the frightened animal, plunging and kicking to get rid of the fearful enemy banging at his heels, and he nearly killed himself before breaking it loose. From that day he was a confirmed kicker: not a leaf could rustle in his rear, but his heels would fly like lightning, and he was harnessed and driven only at the peril of life. Another colt was taught to kick while confined in the stable, by his owner ignorantly trying to "break his spirit." This he did by belaboring him with a cow-hide, and yelling at the top of his voice! The horse was frightened into the belief that man was an enemy, and he acted accordingly, kicking at every one who did not first terrify him into temporary submission. This was as sensible as the advice of an English horse-breaker of the olden time: "If your horse does not stand still, or hesitates, then alrate (yell) with a terrible voyce, and beat him yourself with a good stick upon the head between his ears, and then stick him in the spurring place, iii or iiii times together, with one legge after another as fast as your legges might walk; your legges must go like two bouncing beetles!"

In the training of the colt, too little attention is paid to educating the whole animal. He should be gently and continually handled, not only about the head and mouth, but from 'end to end.' First invite his affection by little presents of corn, or a few bread crumbs. Having gained his confidence, smooth his neck, then gradually extend your attentions along his back, and down his flank, and so on day by day advancing a little at a time, until you may safely handle every part. In time he will learn to bear a smart slap upon the haunches without thought of retaliation, and when once he has learned this, he can not be made to kick by any fair usage. The man who abuses a horse deserves a kick.

But can a confirmed kicker be cured? Rarey says yes, and if one can exercise Rarey's firmness, good sense, and *patience*, we believe he can make the worst kicker safe. We witnessed his treatment of a most dangerous mare, and the effects of the one lesson given seemed marvelous. He first applied the strap to the fore leg as described on page 36, (Feb. No.), then led her around upon three legs until the creature found she could not kick. He next threw her,

and commenced handling her flank and hind quarters, at which she kicked violently. But she soon found that nothing resulted from it; nobody was hurt, frightened or angered, and in about fifteen minutes her intrepid conqueror lay down and placed her hind foot upon his head. When she was released, he mounted and dismounted repeatedly, until she allowed him to sit quietly upon her haunches. Such lessons repeated half a dozen times or more, as the case might need, he said, *would tame her hind quarters*. Our advice is, first, don't teach your horse to kick; but if unfortunately you have been cheated in trade, and are the owner of a dangerous beast, don't try to cheat any one else; try the Rarey method thoroughly, or employ an experienced horseman to do it, and so make the best of a bad bargain. *

To Hold a Hard-headed Horse.

To the Editor of the American Agriculturist:

I wish, through the medium of your common-sense paper, to describe a simple method of holding a fiery, hard bitted, or run-away horse. Put the buckle or snap of the rein *through* the bit ring, and fasten it to some part of the bridle between the ears and mouth of the horse. The advantage of this easily and quickly made arrangement is two-fold; 1st, it draws the bit directly into the corners of the mouth, whatever be the position of the horse's head; 2nd, the force exerted on the bit in this manner by the same power at the end of the rein, though not quite doubled, is very much greater than when the rein is attached simply to the bit. By this means, I have seen the most fretful and ungovernable animal immediately converted into a serviceable plow-horse, while my eased limbs and shoulders gave direct testimony in favor of the diminished labor of managing the team.

The arrangement is also convenient in driving an ill-matched team, one horse being a fast, and the other a moderate traveler. Arrange the reins as directed, for the fast horse, leaving the others in the common way. N. P. BLAKESLEE.
Oakland Co., Mich.

Black Leg in Calves.

We have never had a case of this kind in our calves, or, indeed, disease of any kind. In this as in other matters, an ounce of prevention is worth a pound of cure, and we have always used the ounce. Dr. Dadd, who is authority upon these diseases, says: "the farmer will overcome a host of obstacles, if he considers joint murrain, black-leg, quarter-ill or evil, black quarter, and dry gangrene, as all analogous. By the different names are meant their grades. In the early or mild forms, it consists of congestion in the veins or venous radicles, and effusions into the cellular tissue. When chemical action overpowers the vitality, decomposition sets in, and it then assumes a putrid type; mortification or a destruction of organic integrity is the result.

Causes.—Its proximate causes exist in any thing that can, for a time, interrupt the free and full play of any part of the vital machinery. Its direct cause may be found in over-feeding, miasma, exposure, poisonous plants, poor diet, etc. The milk of diseased cows is a frequent cause of black-leg in young calves. The reason why the disease is more likely to manifest itself in the legs than elsewhere is, because they are more exposed by the feet coming in contact with the damp ground, and because the blood has a kind of up hill work to perform.

Treatment for Black-leg.—Efforts must be made to depurate the whole animal, and to arouse every part to healthy action. Antiseptics may be used in the following form: Powdered bayberry bark 2 ounces, powdered charcoal 6 ounces, powdered cayenne 1 teaspoonful, powdered slippery elm 1 ounce. Add boiling water enough to make it of the consistence of thin gruel.

All foul ulcers may be washed with chloride of lime 1 ounce, and 1 pint of water, or with chloride of soda 1 ounce, and water 6 ounces. The affected parts should be often bathed with one of these washes. If the disease is not arrested by these means, repeat them, and put the animal on a diet of flour gruel."

Calves should not be allowed to run with their mothers, if the cows are diseased. They should be kept on a dry stable floor or in a dry place.

How to Feed Calves.

The following communication, by the veteran farmer, John Johnston, of Western New-York, published in the Rural New-Yorker, is in proof of what every good authority insists on, that it pays better to be liberal in feeding stock, especially growing animals:

"On the 1st day of last month, my neighbor, Mr. Swan, sold ten two-year old cattle at a little over sixty dollars each. None of them were older than two years last March, and four of them were two years old from last June until September. Nine of them he raised on his farm, and one was bought when four months old. They were only ordinarily well kept when fed milk. It is very difficult to get hired people to attend properly to feeding calves. Either too little or too much feed is injurious. The first Winter they had each daily one quart of oil cake meal and good hay; then good pasture in Summer. The next Winter they each had only two quarts of corn meal ground fine, cob and all. (If not ground fine I think the cob injurious.) On the 6th of last May, these and thirteen others were turned to pasture on a thirty-five acre field, and on the first of June, or a few days after, sixty-nine sheep were put on the same field. Some cattle were taken out and others put in in their place; and the thirty-five acres pastured that stock, and made the whole fat until the last day of November. When yarded, the ten cattle were fed six quarts each daily, of fine ground corn and cob meal, until sold on first of January. I have known Mr. S. to have his two-year-olds more than 100 pounds each heavier, but never any so fat—four of them coming so late as from the end of June to the 15th of September, brought down the average weight.

"Now farmers can make their own calculations whether it is better to feed cattle as Mr. S. fed his, and sell them for \$60 each and upward, or feed them in the common starvation way, and have them worth from \$15 to \$30. I know that if these cattle had been properly attended to the first four months, they would have been worth more money. I have known him to sell his cattle at the same age for considerable more money, but when beef was higher, and I presume there were four of them younger this year. I believe it to be a duty every farmer owes his country, to make his land produce all he possibly can, either in grain or stock, and I have never yet seen a farmer who thought he had raised too much after he had marketed his products."

SPECIAL PREMIUM FOR THREE-YEAR OLD STEERS.—Twenty dollars have been contributed

by two members of the N. Y. State Agricultural Society toward a purse of \$50 for a show of three-year old steers at the next Annual Exhibition at Watertown, Sept. 17 to 20. It is proposed to give three prizes, of \$25, \$15, and \$10, respectively, for the best single animals. Those having choice beasts of that age, may do well to complete the amount and enter for competition. The awards will be made by Judges appointed by the Executive Committee.

Live Stock from Vermont.

C. T. Alvord gives, in the Country Gentleman, the following report of live stock sent from Vermont to Boston market during 1860:

	Cattle.	Sheep and Lambs.	Horses.
January.....	1,272	4,590	23
February.....	1,155	4,359	29
March.....	1,031	3,133	87
April.....	606	3,540	94
May.....	605	3,635	44
June.....	754	4,821	86
July.....	1,043	7,060	90
August.....	1,039	7,755	131
September.....	2,424	14,461	85
October.....	2,502	9,952	—
November.....	2,006	11,502	42
December.....	1,830	7,434	—

Making a total for the year of cattle, 16,267; of sheep and lambs, 82,242; and of horses, 711. Besides these, large numbers of animals are bought in Vermont by farmers in Massachusetts and Connecticut, for fattening; and many others, particularly horses and sheep, are sold to different parts of the Union for breeding purposes. Agriculture is emphatically the business of the Green Mountain State. Just now, we may add, she is sending stock of another character to sustain her ancient reputation. Several regiments of her "Boys" have already passed the *Agriculturist* office on the way to "the war."

What Ails the Lambs?

R. Whittemore communicates to the New-England Farmer an account of great mortality among the lambs of several flocks in the vicinity of St Albans, Vt. The ewes were in good condition, but many of the lambs died shortly after birth, and those which lived had so little strength that they could not stand before two days old. They appeared to be lacking in strength of bone, and their legs and backs grew crooked and deformed. One owner of a flock thus affected, attributed the difficulty to having fed the ewes with buckwheat, as another flock which he kept in an adjoining town, had no buckwheat, and the lambs were all healthy. However, the disease appeared in a flock fed with oats and wheat bran, so that the buckwheat theory is not sustained. Perhaps some of our readers in that vicinity can give further information on the matter.

SCAB IN SHEEP.—Youatt recommends an ointment for this disease, prepared of common mercurial ointment, and three times its weight of lard, for very bad cases. Where the disease is light, or has but just made its appearance, use five parts of lard to one of the ointment. The ingredients are well rubbed together, and the scabs are smeared with it. Another recipe for this disease is, one ounce of corrosive sublimate, four ounces of sal ammoniac, dissolved in four quarts of rain water. This is a powerful stimulant, and should be used with caution. Well fed sheep, or those that run in dry hilly pastures, are seldom troubled with this disease.

TO PREVENT HENS EATING EGGS.—A writer in the Country Gentleman recommends to saw

nail kegs in two, and tack a stout piece of cloth on one end of each, for a hen's nest. They are nailed up in the barn or henery, and are readily found and appropriated for the purpose intended. The laying hen is hidden in them so that her companions are not on the lookout to devour the egg as soon as laid. Again, it is difficult for a hen to stand upon the keg and pick the egg, and the moment she hops in, the egg rolls against her feet, where she can not well reach it with her bill. He prefers the cloth bottom to the ordinary head with straw laid in.

For the American Agriculturist.

A Few Blunders.

Undertaking too much—Draining—Dahlias—A Troublesome Shade Tree—Bean Poles and Pea Brush.

People don't like to confess their faults, or publish their blunders: it is their good deeds and their successes that are proclaimed from the house-top. Would not a change of practice be sometimes beneficial? Behold herewith an example of humility!

1. I have blundered, for many years, in undertaking to do too much. I have been ambitious of owning extensive lands, and of farming on a large scale. As might have been expected, what the work has gained in extent, it has lost in thoroughness. In the fresh ardor and bracing air of Spring, I have laid out too much work—too much for man and woman and beast, and then have worried and over-driven the whole establishment, and in the end have effected less than if less had been attempted.

2. I lost many years of good farming by neglecting to drain lands which needed it. As the soil was dry enough in mid-summer, I imagined that it did not require draining. So I plowed and manured and toiled hard in every way except in making a few good ditches, and then sat down to wonder at my ill-luck. At length, my eyes got open, and the land got a thorough draining, and presto! how the soil warmed up, and how the crops augmented, and that with less labor! Surely, I shall never blunder so again.

3. I once bought a dozen of the finest dahlia tubers that the market afforded, and, for the first year, had a grand display. Some of my neighbors seeing their brilliant show, begged me to divide a few roots with them when the next Spring should come around. At the appointed time, I began benevolently to "divide" them. And this is the way it was done: I broke off the tubers close up to the point of junction with the crown, leaving none of the neck of the plant on the tuber. My neighbors, ignorant as myself, set them out with great care; but, to their disappointment, got no dahlias from them. I also packed up a small box of the same tubers, and sent them by express as a present to a friend in a distant State. Imagine my chagrin, when that friend wrote, acknowledging my good intentions, but informing me that I had not sent him anything that would grow. My eyes were again opened, and since then, I have been careful to secure a bud at the collar, as well as a tuber for any plant.

4. I once planted a Silver Abele on one side of my front yard, and a yellow Locust on the other. They grew rapidly, and made a fine appearance for several years. At length, I had occasion to dig some post holes in the neighborhood of one of these trees, and to trench the ground for flower beds near the other. Lo! what an army of little abeles and locusts sprang

up. This was the beginning of much trouble. Whenever and wherever a root of one of these trees was hit by a spade, it has sent up suckers, and oftentimes without such provocation. They shot up in flower-bed, foot-path, and lawn, just where they were not wanted. After two years of great impatience, the vow was made to exterminate these trees, root and branch. The work cost no little time and money, but it has taught me not to plant such trees in lawns or near flower gardens, or in any ground that is cultivated.

5. Blunder fifth respects bean poles and pea-brush. The brush ought to be cut in the Winter, at the time of wood chopping, and then stacked away under cover. But I have, for many years, neglected this matter until the peas were up, and then, nearly all the brush in the neighborhood has been gathered and burned in the farmer's annual bonfires. And when, after scouring the hills and valleys, I have collected a little, it was left out all Summer and Winter to rot, whereas it should have been housed as soon as the peas were ripe. And my bean poles testify against me. They should be gathered up early in the Fall, and put away under cover.

Let no one be so simple as to suppose I make any such blunders now-a-days! Otherwise I should not be so free in confession. If rightly improved, even mistakes may be profitable, but it doesn't pay to repeat them too often. LEARNER.

A Beginner's Troubles.

Raspberry Cultivation—Planting Trees in Holes—Treatment of Osage Orange Seed.

"MR. EDITOR: I want a little advice. Two years ago, I began to take your paper, and ever since then my zeal in gardening has increased. My success has, on the whole, been satisfactory, but now and then a failure has discouraged me; and I come to you for advice.

1. Getting some plants of the Brinckle raspberry, and wishing them to have a nice, sheltered place, I set them on the south side of a tall privet hedge, at the distance of two and a half feet from the hedge. But, sir, they have made only a weak growth, and yielded only a stray berry or two. What can the matter be?"

[REPLY: The sunny side of a fence or hedge is not as good for raspberries as a partially shaded spot. The finest berries of the field are generally on the shady side of fences, or of wood-lots. But the chief difficulty in your case doubtless was the neighborhood of the hedge. The privet has large masses of hungry roots, which exhausted the soil, leaving little food for your berries.]

"2. As you have always recommended trenching the soil, and digging deep holes for planting trees, I followed your advice, two years ago, in setting out a pear orchard. The subsoil being a stiff clay, I dug holes two feet deep, bringing the red bottom soil to the surface, and putting the surface soil and some good manure into the bottom of each hole. The trees were set out in the Fall. As soon as the heavy rains came on, the water settled in the holes where the trees stood, making a sort of soft pudding, in which the trees swayed about at pleasure. In the Winter, when the ground froze, a sort of tunnel was formed about the stem of each tree, into which Jack Frost came and went as he liked. Next Spring, about half the trees were dead, and the remainder are now only just alive. Now, as all this came from trying to be thorough, and following your advice, what have you got to say?"

[REPLY. Are you sure the *Agriculturist* advised you to dig holes for trees in that way? No, sir. Any body ought to know that if he sunk such pits in stiff clay or hard pan, they would hold water like a bucket. If you buried your good soil at the bottom, and put the tender roots of

your trees in hard clay, they would have been fools to grow. We recommend trenching in certain cases, but do not approve, as a general rule, of bringing the poor soil to the top. Better throw away the poor soil, and fill all the hole with good surface soil. In a soil like yours, we should advise to subsoil the *whole ground*, and then to set the trees in the surface soil, manuring the whole at the same time. Deep holes well filled are good, *but* the holes should never be deeper than the soil is naturally freed from water, or is made so by draining.]

"3. Wishing to start an Osage Orange hedge, I sent to a Western city for seed. Part of it I exposed to the action of frost, by mixing it in a box of damp sand. More than half of it came up and did well. The other part I prepared for planting by scalding it. Then, my ground not being ready, I deferred sowing for forty eight hours; but not fifty seeds ever sprouted. What was the matter?"

[REPLY. Perhaps the seed was worthless—much of that from the extreme West is unsound. But if ever so good, the severe scalding and particularly the two days' keeping after scalding, would be quite likely to entirely destroy its germinating power.]

Model Trees, with Illustrations.

There is as much difference in trees as in men. Some persons seem to think that a tree is a tree, and that is the end of it. If they want a certain number of shade-trees set out in their premises, or by the roadside, and can hire the job done, it satisfies them to know that the specified number are planted, the character of



Fig. 2—A WELL BALANCED EVERGREEN.

the trees being a matter of little or no consequence. We often see persons who can not tell



Fig. 1—EUROPEAN LINDEN—A MODEL FORM.

a pine from a fir; and still oftener, those who can not distinguish between the various sorts of pines, spruces, arbor-vitæ, elms, maples, etc.

But the point we now have chiefly in mind, is, that there is a very great difference between specimens of the same kind of tree. Every rock maple is not like every other rock maple; every Norway spruce is not like every other Norway spruce. Of every kind of tree, there are good, bad and indifferent specimens. Compare a white elm growing in a cold, swampy ground, with one standing in a warm, rich loam. Compare one growing on a bleak hill-top, battered by the winds of fifty winters, its top one-sided, its limbs twisted, gnarled, and stunted, and its trunk covered with mosses—compare such an elm with one which has stood for half a century in a sheltered vale or rich plain, where its massive trunk braced below with buttresses, towers aloft, throwing high and wide its branches symmetrically on every side, and holding up a leafy dome in which majesty and grace are equally combined. Or take a magnolia, or tulip-tree, or chestnut, with unhealthy foliage, or unbalanced limbs, or with the branches trimmed up like a liberty-pole, and compare it with one of the same name, but of better form, such as Mr. Downing loved to look upon and to describe, as "stretching its boughs upward freely to the sky, and outward to the breeze, and even downward toward the earth—almost touching it with their graceful sweep, till only a glimpse of the fine trunk is had at its spreading base, and the whole top is one great globe of floating, waving, drooping, or sturdy luxuriance, giving one as perfect an idea of symmetry and

proportion, as can be found short of the Grecian Apollo itself." We give herewith, (fig. 1,) a model-tree of its kind, the European Linden. The difference in trees of which we now speak, is perhaps more marked among evergreens than deciduous trees, because their beauty depends so largely upon the symmetry and entireness of their branches from the ground to their apex. If the lower limbs are weak, or broken, or unequally developed, or if there are unnatural gaps here and there in the outline, (fig. 3,) the tree will be almost worthless as an ornamental object. It might answer for the forest, but not for a lawn. A *lawn tree*, especially of the coniferous tribes, should be well developed and complete from the top to the very ground. Such a tree implies—what a fine lawn implies—seclusion, refinement, taste, protection from rude hands, and from ranging cattle. In illustration of what we mean in a single case, take figure 2 as a model Norway spruce. And among smaller trees suitable for the lawn, take figure 4, which may be called a specimen of a model juniper.

A *park tree* should have its lower limbs cut off; for here it is understood that cattle,

deer, or sheep, range, who would browse off the branches. Yet the upper portions of every such tree, deciduous or evergreen, should be well-balanced, and the trunk and foliage healthy; for a park is a pleasure-ground, and the trees are supposed to be selected and planted with an



Fig. 3—A BADLY TRAINED TREE.

eye to ornamental effect. A *road-side tree* should be of the same general character as the park-

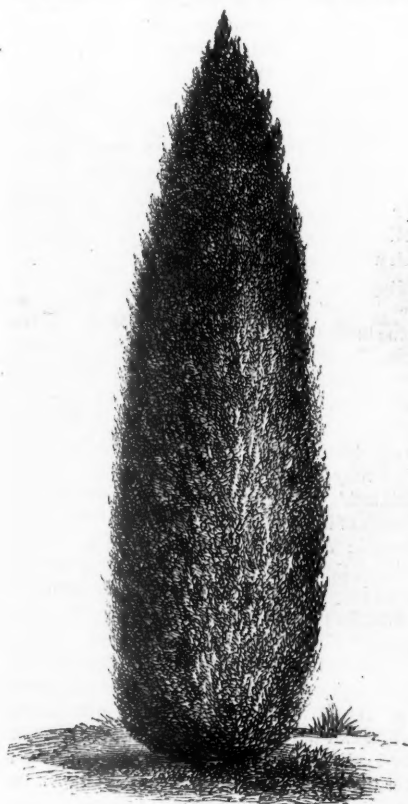


Fig. 4—A MODEL JUNIPER.

tree. The lower branches must be hewn off, ten or fifteen feet high, so as to allow free passage for vehicles, and openness of view in all directions. It is especially needful, however, that they be of the toughest sorts, because they will be exposed to more injuries than park-trees. *Forest trees* are models of their kind, just as we find them, adapted to their location.

Our object in this article is doubtless apparent. We hope it will open the eyes of some to note the characteristics of trees. It is desirable for every person to have formed in his own mind an ideal of each kind of tree, so that when selecting sorts for his own grounds, or for others, he can choose them understandingly. Why should we not plant perfect specimens, while we are about it, instead of such ungainly things as will pain all discerning eyes? And is it not plainly the duty of nurserymen to give their ornamental trees, (evergreens in particular,) more room than they are wont to receive in the nursery rows to develop their base branches? For, if these branches are wanting or feeble when purchased, they will be quite sure to remain so always. More care in this respect would be to the advantage of buyer and seller.

The Best Elm Tree.

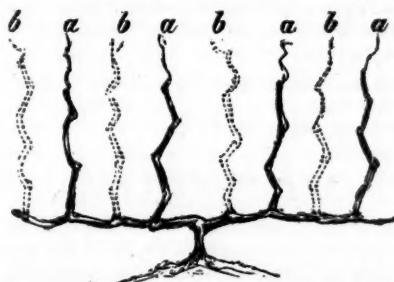
The inquiry is not unfrequently made, which is the best sort of elm tree? To which we generally reply, patriotically of course, the American White Elm. Its grandeur and dignity, combined with equal gracefulness, are nowhere surpassed. Yet other elms have their own excellences. The Scotch and English do not grow as lofty, nor sweep so proudly, but their foliage is darker, denser, and does not turn yellow and drop so early in the Autumn, as does the American. The Cornish (Irish) elm is an erect and dark leaved tree, worthy of a place in every good collection. The Dutch cork-barked elm is also one of the very best trees. It comes

out late in the Spring, but holds its leaves well up to cold weather. It is entirely hardy, and is probably the most rapid grower of all. It stands quite upright, making a globular, or plume-shaped head. It may be readily distinguished from most foreign species by its rough, corky bark, which, however, is less conspicuous than our own native cork-barked elm.

We have seen it stated that trees of the Dutch elm, standing in the streets of large towns, among other trees—lindens, ash and common elms—were entirely untouched by the caterpillar and other worms which infested other trees. If this exemption is a general rule, it will put the Dutchman high on the list of town trees.

Grape Training.

In these mid-summer months, the grape-vines must have some attention. There is danger on two sides. Some persons, seeing their frames covered with an almost impervious mass of foliage, concealing the clusters, will be apt to pull off the leaves to let in the sun and air upon the fruit. Beware of this! The leaves, not the fruit, want the sun light. If your vines were properly trimmed, last Fall, or early in the Spring, all you need do now, is to pinch out the laterals where too many start from a joint, and to pinch off the fruit bearers at two or three buds beyond the fruit. Experience shows that the clusters are largest and also ripen best where the vines have an abundance of healthy foliage. Another danger lies in the neglect to prune at all in Summer. A mass of suckers is allowed to shoot up from the central part of the vine, overlying and smothering the fruit-bearing canes. Three or four shoots are suffered to grow from every point, when one or two are enough. The vigor of the vine should be concentrated into those canes which grow where they are wanted, not diffused and wasted in a wild, ungoverned



a, a, bearing wood of last year's growth—b, b, new wood of this year's growth.

growth of useless wood. The canes should be distributed equally over the trellis, tying them in as they grow, and nipping off the extremities when they have exceeded proper bounds.

Probably, it is the growing conviction of our vine-loving readers—it certainly is our own—that the *renewal* mode of training grapes is on the whole the best. Get two, strong, horizontal canes, full of sound, plump buds, bend the canes to the lower bar of the trellis and fasten it there by stout thongs, from this, upright shoots may be trained, which are to be *renewed* alternately from year to year. In this way, we get an abundance of new fruit-bearing wood every year. The vine, too, is more completely under control than in any other method. When the canes are tied to the trellis at random, and spur-pruned, the new shoots starting out on every side, overlap and crowd each other, and make a mass of unmanageable foliage. When the vines are trained on the renewal method, one sees every cane distinctly, he can rub out every shoot that is not wanted, training up only the fruit-

bearers of the present season and those intended for the same office the next year. In short, he keeps every cane easily at home. Every gardener who loves system and order and neatness, will strongly incline to the renewal method.

Manzanito.

In answer to our request on page 25, January No. Mrs. E. Bowman, of Siskyou Co., Cal., describes the Manzanito, as an evergreen shrub of 15 to 20 feet in height, very crooked and scrubby, much like the Ivy Laurel on the Alleghany mountains. Leaves broad and thick, smooth, dark red, or light brown bark, with a very handsome and fragrant bloom of small pink flowers. The fruit is of a dark color, the size of a pea, with a single pit like the cherry, and is used for food by the Indians. The wood is exceedingly hard and close grained, resembling box wood, the small shoots making fine canes, when they can be found sufficiently straight.

It is found upon the Southern slopes of the mountains, in a dry and sterile soil where nothing else grows but a scrubby pine. Mrs. B., has never seen it transplanted with success. She promises to send us seed in the Fall. We have no doubt they will flourish here, and add another to our list of desirable hardy evergreens.

You Must Have Strawberries—

Not an occasional half pint doled out by the teaspoonful, but plenty of them, great bowlfuls and panfuls, once or twice a day for a whole month at least—not little things of the size of peas that require so much time to pick them over, but great luscious ones, as large as hickory nuts and black walnuts, and larger too—not the chance growth of meadows and pastures, requiring hours of picking in the hot sun, and the trampling down of much grass, but nice plots of flourishing hills in the best part of the garden. You must have strawberries—not alone a few of you who dwell in the old settled portions of the East where other fruits abound, but all of you who live away on the new farms of the West, where few cultivated fruits are yet enjoyed, and can not be until the trees have had time to grow. You must have them—not a dozen years hence, when you have got your farm paid for, your buildings completed, and every thing else fixed up. You must have a good taste of them next year, and thenceforth all you can eat. They are good for the health. They are good for the temper; did anybody ever rise from a meal topped off with strawberries, or strawberries and cream, and feel like scolding? They are the *cheapest* luxury the farm or garden affords, and the *best*. Good strawberries can be grown for 64 cents a bushel (1 cent a pint!)

"But," says more than one, "we can't afford it this year; times are hard, and your cultivated varieties cost money."—Not much; a dozen or two plants of good kinds will cost but a few cents—not more than one or two cents each—and, thanks to the last Congress, the postage is now so low on plants and seeds, that those who can not obtain strawberry plants nearer home, can order them by mail from the other side of the Continent. If well put up in oiled silk, or in light wooden or tin cases, strawberry plants can go from here to Oregon in the mail bags, (for 2 cents per ounce, or 1 cent if under 1,500 miles), and if sent in the cool month of September, they will generally go safely. If subject to much heat on the passage, they may sometimes fail, but the chances are so greatly in favor of their

success, that it is worth the experiment. Order them only of reliable persons, who will take proper care in putting them up well. Dealers will generally pack two dozen plants of any such good kinds as are now abundant, and send them post-paid anywhere for a dollar, or even less if under 1,500 miles, and these will multiply to hundreds the next year.

It is now nearly time to look out for a supply of plants. When not to be carried far, it will do to begin to put out plants any time after the middle of August, or before, if the new runners have become well established. The sooner they can be got to growing this year, the larger and better will be the supply of fruit next season. If to go far, especially if by mail, it is best to wait for the cool weather of September, or even the first of October, before taking up the plants. We have obtained fruit the following season from plants set as late as November, but so late planting is not advisable.

Cultivate Strawberries in Hills.—Every successive year's experience and observation, convinces us that when grown for fruit, it is, as a rule, better to put out strawberry plants in hills, 15 to 20 inches apart, and pinch off the runners. If multiplication is desired, let the runners set, but take up the plants as fast as well rooted, and put them out in hills. They can then be kept hoed almost as easily as corn, and they will produce better fruit and more of it than if allowed to run in a tangled mass or thick mat.

Soil and Manure.—Strawberries will grow on any soil; but like every other plant, they will pay for manure, and flourish best on a moderately good loam. On good rich soil, little manure is needed; but on poor soil apply and dig in deeply a fair coating of well rotted manure. For a clay soil, nothing is better than to lighten it up with rotten manure, and a large supply of black earth (leaf mold) from the woods, or of decayed chips from the wood pile. If the soil be subject to standing water, it should be drained. This may be done by throwing it into high beds, or cutting deep paths between the beds or rows, with an outlet to carry off surplus water. A supply of water below 18 inches in depth, is rather favorable to the plants.

But too many specifications will intimidate the inexperienced reader, and though for extra crops of extra berries, a deep, thoroughly prepared soil is essential, we now desire to simply impress the fact that with a very trifling outlay of time and trouble, every garden may be supplied with a good bed of this most excellent fruit. They are grown about as easily as corn. We repeat: *Good strawberries can be readily grown for 64 cents a bushel, (1 cent a pint!)*

Winter Protection.—In localities where the soil is subject to much freezing and thawing, it is desirable to throw over the plots, at the beginning of winter, a coat of loose straw or leaves—not enough to smother the plants, or to prevent their being frozen, but merely to keep them from frequent alternate freezing and thawing. Leaves are not so good as straw, as the former mat down and smother the plants more. As good a plan as any, if not the best, is to spread loose straw all over the plants, in November or December, and in Spring simply move the covering from the tops of the plants, and let it lie on the ground around them, where it will smother weeds, keep the ground moist, prevent the soiling of the fruit by rains dashing up the earth, and by its gradual decay furnish manure.

What Kinds to Plant.—There are two hundred or more named varieties of strawberries, all of which are readily distinguished by some peculi-

arity of form, color, shape of leaf and stem, etc. Many of them are comparatively worthless; others have proved good generally, and are widely known; while a number of new sorts, which are doubtless of superior excellence, are not yet widely known, and are comparatively scarce and high priced. These last should be secured by the amateur, and those having facilities for testing and cultivating many kinds; but the great mass of farmers and villagers desire only a few well proved sorts for the garden plot, for home use. Were one of this class to send to us to procure for him, say 50 plants, we should forward about 20 of *Triomphe de Gand*; 13 of *Wilson's Albany*; 13 of *Hooker's Seedling*, and for the rest, one or two each of such newer extra sorts as we could best obtain. Such an assortment ought to be boxed and sent any where by mail, *post-paid*, for one dollar.

The *Triomphe de Gand* is a large, beautiful berry, of superior flavor, and so far as we can see and hear, the plant is a vigorous grower and prolific bearer. The *Wilson* is a splendid bearer, and the berries large and beautiful; but it is too sour for eating without plenty of sugar. *Hooker's Seedling* is also a fine fruit, and of excellent flavor. It is said to be not quite so hardy as some others, though it has maintained its ground well with us. It originated at Rochester, N. Y., and should not be tender in that latitude or further South. Both the *Triomphe de Gand* and the *Hooker* have suffered less here than the *Wilson*, from extreme cold and dry weather. For market purposes, where a large supply of handsome fruit is the chief object, the *Wilson* may be best; but for our eating we prefer either of the other two named.

[EXPLANATION.—The above came from the Editor in Chief, who is away "at home," for the time being, doubtless feasting on a bountiful supply of a dozen sorts of fine strawberries, with sugar and plenty of home-made cream to match, and under the inspiration of which he probably wrote the above earnest advice. At the same time we have the article below, from our worthy Associate Editor residing in Central New-York, who also speaks from long experience, we believe. As the subject is important this month, we print both articles, thus giving our readers the advice of two competent editors, who reside 200 miles apart, and who each write without the knowledge of the other, and of course without consultation.—Office Associates.]

A New Strawberry Patch.

As a matter of course, everybody who can, means to have a strawberry bed of his own. Even if he can buy his berries in market cheaper than he could raise them, who would not prefer nice, fresh fruit just plucked from his own vines, to the crushed half-fermented masses brought a long distance in baskets or boxes, or spooned out from tubs of questionable neatness, which are so often offered for sale at the corner grocery. They who eat only the latter article, know little of the rich flavor and delicious aroma of strawberries fresh from the vines.

This is a healthy fruit, the doctors tell us, when eaten in reasonable quantities—remembering the old rule: "gold in the morning, silver at noon, and lead at night." The doctors, when honest, tell us likewise, that strawberries "smothered in cream" are more fashionable and palatable than healthy, and they advise us to eat them fresh, and mixed with nothing but morning dew. Hear old Abercrombie: "This fruit is very nourishing, and may be safely eaten by gouty and rheumatic persons. Its sub-acid juice has a cooling quality, particularly acceptable in Summer. Physicians concur in placing it in their small catalogue of pleasant remedies. It dissolves the tartarous incrustations on the

teeth, and promotes perspiration. It gives relief in cases of stone, and Hoffman states that he has known consumptive people cured by them."

Thus fortified, let us go out and make our strawberry bed. Spring is, on some accounts, the best season for starting new beds. The plants are then springing into vigorous growth, the ground and the atmosphere are moist, and the heat of the sun is less intense than in mid-summer. But, on the other hand, if a bed can be well established in August, it is quite sure to furnish a fair crop the first season afterward.

Preparation of the Soil.—Opinions differ as to the kind of soil best suited to the strawberry. Some insist that there is no need of enriching or deepening it at all. Probably those who succeed under such management, have ground that is naturally deep and fertile. Where the soil is light and thin, heavy mulching or frequent watering should be resorted to. Where it is naturally strong and then is heavily manured with rank stable manure, the plants make a luxuriant growth of leaves, to the loss of fruit. After considerable observation and experience, we are satisfied that those gardeners who succeed best in the long run, do trench and enrich their soils. A favorite method is this: Suppose a bed is to be made, sixteen feet long and four and a half or five feet wide. Begin at one end, and uncover a piece of ground five feet square, removing the top soil in a wheel-barrow to the side of the further end of the bed. Now, wheel in a barrow load of old manure or compost, spread it over the lower spit and spade it in, mixing the same thoroughly. Then uncover another portion of the bed, five feet square, throwing the top soil back upon the ground already manured. Enrich this second lower spit like the first, and then cover it as before, so proceeding until the other end of the bed is reached, and the subsoil of the whole is manured. Cover the last five feet square, with the soil taken off from the bed at the beginning. The top layer will probably need a little enriching. Treat it with a compost of well-rotted manure, largely mixed with leaf-mold and ashes. If the soil is naturally stiff with clay, sand should be added. This having been well incorporated, rake the ground smooth, draw your garden line and shape the sides of the bed handsomely. Such a bed will last for several years.

Planting.—Those who cultivate on a large scale, will set their vines 2½ feet apart in rows, and cultivate the ground with horse and hoe. But for garden culture, sixteen inches apart is enough, and three rows in a bed, with alleys eighteen inches wide between the beds, for convenience in hoeing, weeding, and picking. Those who want to raise their fruit with the least possible pains, and who care less for the quality than the quantity, will allow their vines to run and cover the beds. They who care something for the neat and orderly look of their gardens, and who want large and handsome fruit, will keep their plants in hills, or at least in regular rows. The runners must, therefore, be clipped several times during the Summer. Of course, when plants are wanted for starting new beds, the runners must be allowed to increase.

In making new plantations at this season of the year, considerable care must be used. If possible, choose a cloudy or showery day for transplanting. If such weather does not turn up at the desired time, then follow the rule we have often given for setting out tomato and cabbage plants. Provide a bucket or two of tepid water, dig the holes with a trowel or spade, pouring into each half a pint of water. When it has

partly soaked away, put in the roots and cover them with fine soil, using the fingers to do it with. Before setting out, cut off a part of the larger leaves of each plant. As a general rule, the plants should be shaded for a day or two, and the ground mulched immediately with leaves,

Best Varieties.—We shall not assume to speak authoritatively on this point. The number of excellent sorts is now great, and those which succeed in one soil and climate and treatment, do but indifferently well under other circumstances. A few hints, however, may be given to aid in making selections. *Wilson's Albany Seedling* ranks very high, if not the highest, as a prolific bearer. Yet, it is rather acid, and when ripe, turns dingy soon after picking. With us, too, it frequently burns out in mid-summer. The *Hooker* is a beautiful, delicious berry, and prolific enough; but it is rather tender in winter. The *Boston Pine*, *Cushing*, and *Burr's New Pine*, are very sweet and palatable, requiring little or no sugar. *Hovey's Seedling* holds its ground well among the older varieties, and deservedly; it is large, hardy, a good bearer, and of pleasant flavor. *Triomphe de Gand* promises finely, at least for amateur cultivation. So do *Austin's Seedling* and others which we can not specify. For market gardeners, public sentiment hereabouts settles upon the following as the most profitable: *Wilson's Albany*, *Iowa* or *Washington*, *Early Scarlet*, *Crimson Cone*, *Hovey* and others. For amateurs, the list would include, *Triomphe de Gand*, *Hooker*, *Marylandica*, *Burr's New Pine*, *Vicomtesse Hericart de Thury*, *Wilson*, *Cushing* and others.

Nearly every sort of strawberry is benefited by a little protection in winter. Leaves make a good covering. Keep them from blowing off by laying over them a little fine brush. If leaves are not at hand, use tan-bark, or straw, or any coarse litter, the bulk of which should be removed in the Spring.

Notes on Strawberries.

During the season, several varieties of Strawberries have been on exhibition at the Office of the *American Agriculturist*, upon which the following notes have been made:

Triomphe de Gand.—Specimens from J. Knox, Pittsburgh, Pa.: Beautiful berries, of large size—some measuring $5\frac{1}{2}$ inches in circumference; of deep red color, excellent flavor; No. 1 in every respect. They bore carriage sixteen hours by land express well, arriving in good order. Other fine samples of the same variety exhibited by W. F. Heins, New-York, showed this berry to be a prolific bearer. Mr. Heins also showed specimens of *Wilson's Improved*, *Chorlton's* and *Scott's Seedlings*—none of them, however, equaled the *Triomphe de Gand*.

Austin's Seedling.—A quantity of this fruit was forwarded by the Shakers from Watervliet, N. Y. The berries are very large—the largest specimen measured $5\frac{1}{2}$ inches in circumference, and weighed one ounce. They are of light color, not as firm, nor as high flavored as the *Triomphe de Gand*. The fruit is of moderately good flavor, however, and valuable for its prolificness, and size, though one of its chief excellences is its lateness, which brings it in after other kinds have disappeared.

Boyden's Mammoth.—From C. S. Pell, Esq., of the N. Y. Orphan Asylum. Size large, $4\frac{1}{2}$ inches in circumference, and of fine appearance.

Wilson's Albany.—Specimens received from several parties. This standard variety for mar-

ket is too well known to need description. If it had less acidity, it would be the most desirable sort cultivated.

How to Show, and How to View a Garden.

It is taken for granted here, that one has something worth showing, that his grounds, be they large or small, are his pride and joy, and that from day to day, and from year to year, he does whatever he can to improve them. It is assumed, also, that our exhibitor has more than one thing to show. Specialties are very well, in their way, but if a person has only a single thing to display, he will not always be able to please his visitors. He should, also, have more than one spot of ground to traverse. Where there is a succession and a variety of scenes, each object can be viewed more leisurely and enjoyably; the curiosity is kept awake, and the entertainment is indefinitely prolonged.

"At what hour of the day, sir, would you prefer to receive your visitors?" Not at mid-day; for then the light falls vertically, and the shadows of trees and shrubs are almost imperceptible. If, too, it is mid-summer, the heat of noon is so intense that the visitor sweats and puffs, and feels that he is pursuing enjoyment under difficulties. Half the poetry of a garden is lost by viewing it under a broiling sun. Come to see us in the morning, sir, when the dew is sparkling on tree and grass, when the birds are musical, and all nature is fresh and attractive. Or come at evening, when the shadows fall aslant the lawn, when the heat of day has subsided, and the cool air is filled with fragrance.

In showing a garden, it is not advisable to exhibit its finest parts first. Begin with its common and humble features, and pass slowly from these to the rare and striking. If the sun is shining, do not walk much toward it—thus keeping the bright light in your face, and destroying the effect of the garden—but keep the sun behind you, as much as possible.

To some visitors, you need say little or nothing in illustration of the garden, grounds, or adjacent scenery. They will detect almost everything at a glance, and will enjoy themselves to the full, only now and then plying you with questions, and exclaiming, "how beautiful! how beautiful!" Others will walk along more quietly by your side, confessing their ignorance of gardening, in its higher forms, but begging you to tell them as you go, the name of this and that, and the origin of the other, enjoying with a keen relish all the information you give them. But there are visitors of a different sort. They have just a smattering of knowledge about gardens, and are puffed up with self-conceit. While visiting your grounds, they continually remind you of their own superb establishment, of their English gardener, and of their other highly important concerns. . . . Just here, we recall a letter, received some time ago from an indignant subscriber, who had suffered from the attacks of such a visitor. He says:

"MR. EDITOR—I am a victim. You know I have been an amateur gardener, in a quiet way, for several years; that, as my means would allow, I have collected every novelty of tree or flower that could be procured; and that many sensible men and scholars have often come here to examine my treasures. But lately, I have been bored by Gustavus Adolphus Jones. He walks through my grounds with head erect, and talking about his new span of horses and the next election. If I call his attention to a rare

plant, he will say, 'Ah, yes, thrifty, and nearly as large as one I have,' when, the fact is, he knows nothing about it. And off he will stride through the garden, stupidly ignorant of the valuable things it contains. I have been collecting, for several years past, the rarest evergreens, and out of the whole number selecting and training the finest specimens. On calling his attention to them lately, he tossed his head, declaring his own *Balsam Firs* better than all the new-fangled trees in the world. And so he runs on, and so do others who come to see me. Not a few, however, do not seem to know or care much about gardens. I can bear these folks, but Gustavus Adolphus is my abhorrence. How can I get rid of him?

Your afflicted friend, HORTICOLA.

Let Gustavus alone; don't try to improve him; the leopard won't change his spots. Possibly he might wince a little, if you should return his visits promptly, and treat the finery of his pretentious establishment, as he does your modest garden. As to the other, half-indifferent visitors, be patient. They know but little, and enjoy life only within a narrow range. The sight of such grounds as yours may open their eyes a little. Be patient, and when those elect few come to see you, who heartily love gardens, and can appreciate them, you will be largely overpaid. But no one should make a garden simply for the sake of having it admired. He should so love it for its own sake, and be forever content with the beauty and fragrance it affords him and his own family.

Perhaps we need add nothing more as to the best way of showing and viewing gardens. Only this would we say: When a gentleman goes to see another's grounds, let him leave his own garden at home. He should go to be instructed and entertained, to see and hear, not to criticise, and to remind his host of much better gardens elsewhere. Go in a receptive state of mind; learn and enjoy all you can; let your entertainer see that you are pleased, and when your visit is ended, thank your friend for the enjoyment he has afforded you.

Transplanting and Shading.

As a general thing, too much water is used in transplanting. A shower or *douche* bath of cold, or even lukewarm water, upon a cabbage or other plant, not only packs the soil and makes it bake, but it chills the plant by its evaporation, and puts back its growth. If the soil be damp, and a little care be taken to preserve the fibrous roots unbroken, water is seldom needed. If the ground be dry, a little lukewarm water should be poured into the hole made, and dry soil be filled in, leaving the surface dry and loose. With this precaution we have had excellent success in transplanting all kinds of plants in the driest weather at all hours of the day.

Most persons prefer evening for transplanting. In practice we find the morning nearly as well. Perhaps the plant is less exhausted of its juices in the morning, and on this account bears the change quite as well at that time.

It is well, and often necessary, to shield plants from a hot sun for a day or two after removal, especially if the roots are much disturbed, or if they are carried far. The most convenient and ready mode of doing this is, to break off full leaved small branches from trees or shrubbery, and stick one or more of them in the ground on the sun side of the plants to be protected. A few minutes labor will suffice to thus shield a large plot of cabbages or other plants.

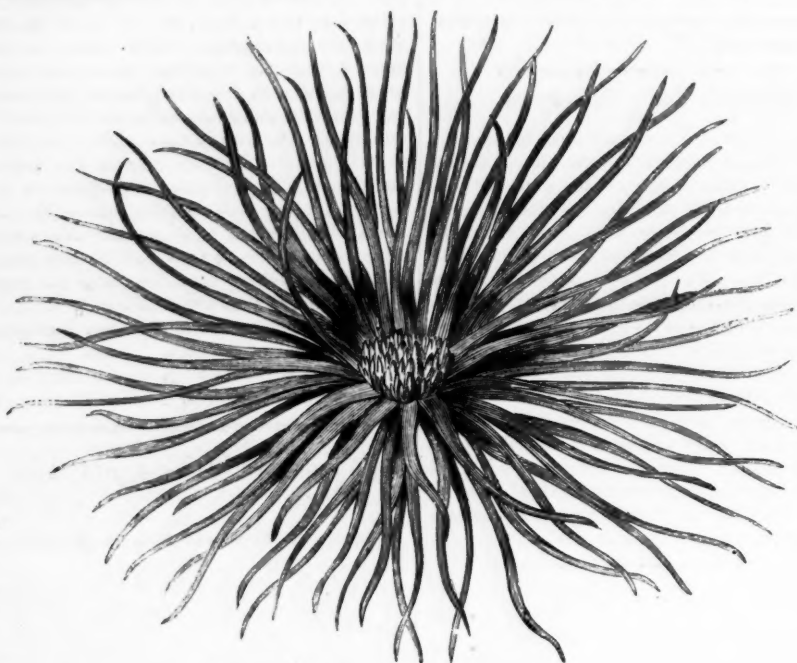


Fig. 1—THE STAR CHRYSANTHEMUM.

New Chrysanthemums.

The Chrysanthemum has long been in high repute among lovers of flowers. Its beautifully variegated forms and colors, and the ease with which it is cultivated, make it eminently a plant for the million. It is one of the finest of the hardy herbaceous perennials, and its bloom remaining late in the season, after most other flowers have disappeared, renders it particularly desirable. The blossoms are often seen covered with the first snows of Winter. It was supposed



Fig. 2—COROLLA, magnified

that the limit of fine varieties had been reached, but it proves to be otherwise, and floriculturists will be much interested in examining the two distinct forms, here shown, which were discovered in Japan and sent to London by Mr. Veitch.

In Fig. 1 the peculiarity consists in the ligulate (strap like) corollas being drawn out into extremely narrow sharp terminations. This variety may very appropriately be called the Star Chrysanthemum.

Fig. 3 is of an entirely different type. The head is compact, incurved, with all the corollas divided into two irregular unequal lips. Fig. 2 represents a single corolla considerably magnified, to show the exact form. The

name of Dragon Chrysanthemum is proposed for this variety. No opportunity has been afforded to examine these novelties, as they have but recently been received in London, and we have no information as to their color or other properties. It may be expected, however, that

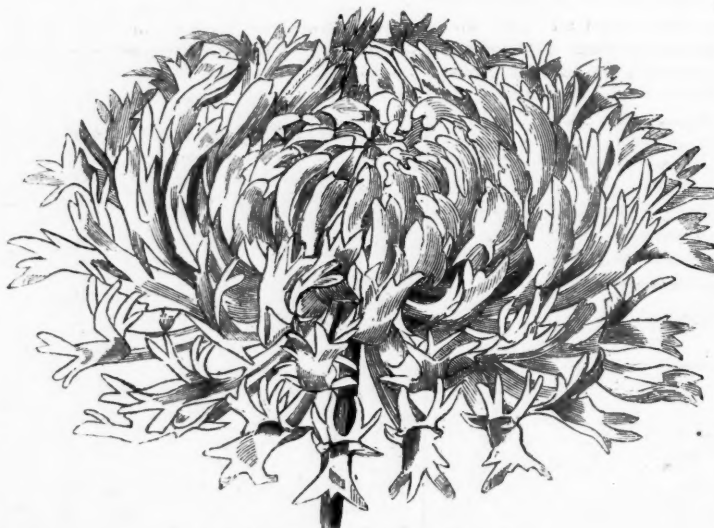


Fig. 3—THE DRAGON CHRYSANTHEMUM.

in addition to the attractions possessed by the flowers themselves, many new forms may be obtained by hybridizing with the common sorts. American Florists will not be long in procuring specimens of these foreigners, so that by another season we may be able to give fuller notes on their character and value.

Wintering Carnations.

It is harder to *Spring* them than to *Winter* them, out of doors. It is their exposure to freezing and thawing that makes such sad havoc with them. A good and easy method is to lay over them in the Fall a few tops of Phloxes, or leaves, then put on a sod or two loosely. In the

Spring, take off this covering a little at a time, reserving the last until hard frosts are over. The only *sure* way is to pot them in the Fall, and keep them in a pit or cellar. They will need watering only a few times.

The Petunia.

A fine bed of petunias palpitating beneath our window, persuades us to speak a word or two to others in behalf of this family of plants. Its name was derived from the original Brazilian appellation, *Petun*. Two species of this plant were introduced, years ago, from South America—the old white sort from Brazil, in 1823; the purple from Buenos Ayres, in 1830. These were all well in their way, but too coarse to suit the taste of refined florists. So they undertook to see what would result from hybridization, and soon produced many pleasing varieties, all intermediate shades between these two, and others penciled and flaked and spotted. For several years, some of the reigning favorites were by name: *Hebe*, *Braut's parfait*, *Gem*, *Lady Alice Peel*, etc. Then quite a furor was excited by the appearance of a double petunia. But they were interesting chiefly as novelties; they did not flower freely, and at best were somewhat coarse and ragged in form. Within the last few years, greater improvements have been made. The new double sorts are better, (take *Garibaldi* as a specimen,) and the single sorts are marked with singular beauty. The best within our present knowledge, are: *Standard*, *Garibaldi*, *Inimitable* (and indeed it is inimitable,) *Forget-me-not*, *Conqueror*, *Novelty* and *Gem*.

One of the great excellences of the petunia is the ease with which it is cultivated. Prepare a bed of good garden soil in May, sow a paper of choice mixed seed (to be had of any reliable florist) and your petunia bed is made for several years. The seeds will start readily, giving plants a great variety of colors and shades, which will sow their

own seeds from year to year. The young plants will need much thinning out every Spring—say to three or four inches apart.

If one is a little more fastidious, and must have only the finest named sorts, he can procure half a dozen from the nearest nursery at about a shilling apiece. If he wishes to preserve his plants from year to year, let him in the Fall cut back the tops to a few inches of the ground, pot the roots and keep the plants on a shelf or table in the sitting room. Or, take off cuttings in September, which will soon strike roots, and by another Spring become fine plants for bedding out.

The lady who shed those torrents of tears is supposed to have had a cataract in her eye.

An Afternoon among the Flowers.

Summer Exhibition of Brooklyn Horticultural Society.

This Exhibition was held June 20th, just after the July *Agriculturist* had gone to press, and was confined to members of the Society, and invited guests. No prizes were offered, yet the display was fine, and speaks well for the enthusiasm which almost invariably attends the cultivation of flowers.

Roses were a chief feature of the Exhibition. Messrs. Dailledouze and Zeller had 53 varieties of choice Perpetual, Climbing, Tea, and Moss Roses. A. G. Burgess exhibited 45 kinds, among them a new seedling climber, very double and fragrant—not yet named. The same gentleman had 65 varieties of seedling Sweet Williams, comprising every shade, from the darkest maroon to the purest white, many of them mottled, fringed, and mixed in most beautiful combinations.—15 varieties of Monthly Carnations, very fine, and 57 varieties of Pansies were shown by Messrs. Dailledouze and Zeller.

A collection of Fuchsias shown by Mr. John Humphries was generally pronounced the finest ever exhibited in this region. They had been trained to the highest perfection of form, and elicited universal admiration. Dahlias, Delphiniums, Campanulas, Paeonias, Foxgloves, and numberless other Summer flowers in bouquets and frames were in profusion.

One feature gave great pleasure in examining the collection. Here were flowers for the million—not rare exotics which must be petted by professed gardeners, and nursed in hot-houses, but those which bloom beside the humblest cottage in the land, as freely as on the lawn of the millionaire. We wanted all those who have but small plots, in which a few dozen plants can be grown, to be there, that they might know how much beauty can be enjoyed by proper selection among easily grown flowers.

A plan adopted in some of the collections was particularly commendable, and should always be followed. Each specimen was plainly labeled, so that any one desiring to procure a desirable variety "when the war is over," and money is not so scarce, could make a note of it. *

Take Care of the Bulbs.

It is quite important that such bulbs as the hyacinth and tulip should be lifted in mid-summer of every year, or at least every other year, and kept dry until the Autumn, when they are to be replanted. They keep firmer and healthier from year to year, and truer to their colors, than when left continually in the ground. It is desirable to take them up, also, in order to remove the offsets which form around the parent plants. Lift them, dry them, and put away in paper bags, which should be plainly named.

Some persons, however, whose bulbs are set in conspicuous beds, feel impatient to get rid of the leaves of the plants immediately after the flowering time is past; and so they very soon cut them off, or barbarously pull them off. A great mistake this. The healthy maturity of the bulbs depends on the vigorous growth of the leaves, and we should strive to encourage, not check it. A few years of such cruel treatment will spoil the finest bulb. Give the plants all possible light, and keep the ground well stirred, until their maturity is completed. When the leaves turn yellow, the bulbs may be lifted and stored away. If necessity seem to require moving them, about the time the tips of the leaves fade, take up each plant with a ball of earth attached,

set it out again carefully in a reserved bed, until the foliage is ripened off completely.

Notes on Early Bush Beans.

(July 1st).—We planted seven kinds of beans for experiment, on April 27, and they have come into bloom as follows: Early China, June 17; Early Rachael or Quail-head, June 18; Dwarf Horticultural, June 20; Early Dun, June 20; Early Mohawk, June 21; Nonpareil, June 23; Hybrid Tampico, not yet in bloom, though the others have pods of various sizes upon them. As these were all planted alike, in rows side by side, the above results show very fairly the comparative value of the several kinds as respects early yielding. They are all very fair for cooking. According to our previous experiments, the Early China ranks among the best for the table; though there is not much choice among all the above except as to their early bearing. A small quantity of several of them planted at the same time will keep up a succession.

Early Peas.

The Daniel O'Rourke has been a favorite as a very early pea because it comes so quickly into bearing, and produces a fair crop. The excellent Champion of England, and other large richer sorts, though later, are preferable for the main crop of peas for cooking green. This year by way of experiment we planted Daniel O'Rourke, March 27th, and on April 1st, a new variety called the "Extra Early Princess Pea." June 1st, they were both just ready for picking. The Princess is a little sweeter than the O'Rourke, and is preferable on that account as well as being a trifle earlier; but the Princess grows taller, requires more bush and is a poorer bearer.

Trimming up Fruit Trees.

An ornamental tree should seldom be touched by saw or pruning knife. Road side trees, and those in pastures and public parks must be trimmed up ten or twelve feet from the ground; but lawn trees should generally spread their limbs on all sides in their native luxuriance.

And this for beauty. We believe, also, that for simple utility, fruit trees should have very little pruning of their lower limbs. Doubtless, one cause of the diseases to which such trees are subject, lies in the exposure of their trunks to the hot sun. The leaves need all the light they can get, but not so the limbs and trunk. Keep them cool and shaded, and the sap will flow up and down from root and branch uninjured. The injury from the sun's rays is probably as great in the Winter and early Spring, as in the Summer. After a severe frosty night in March, let the bright sun shine upon the bark of a pear or cherry tree, and it will be quite sure to burst it. In the northern region where we now write, we can count thousands of trees—apples, cherries, pears, horse-chestnuts, lindens, and others—with large cracks or rotten places on the south side of the trunk, caused, undoubtedly, in the way above indicated. Now, who will say that if the lower branches had been suffered to grow on those trees, they would not have prevented these injuries? There is a benefit to the soil, also, in the treatment we recommend. It is kept moist, cool, open, and in a favorable condition for the growth of roots. Grass and weeds make but little trouble. Mulching is seldom needed.

Low headed trees are seldom apt to blow over. The blossoms and fruit are less liable to

be blown off by high winds. If insects invade the branches, they can be more easily reached and exterminated. Grafting can be done with great facility. Fruit can be gathered with much ease, and that which falls to the ground gets little injury. The bark of such trees is less likely to be infested with vermin, because it is bright and smooth, and of course there is little or no need of scraping and washing the trunk and limbs. We presume, also, that such trees will be longer lived and more productive than those trimmed up.—The only objection we have heard is, that in such a fruit-garden or orchard, nothing else can be grown between the trees. Well, there ought not to be. A well managed fruit garden is the most productive part of a man's farm, and he ought to be satisfied with it.

THE HOUSEHOLD.

Save the Fruit—It will be Needed.

Those who have plenty of fruit, as well as those who have little, should save as much as possible this year, by drying or other modes of preserving. (See sundry directions last month, page 215.) The truth is, so far as we can gather, that the fruit crop of the whole country will be small. Cherries failed almost entirely, except in a few sheltered localities. Peaches abound in a few places, but generally there will be few or none. Apples will give but a moderate yield at best, and in a multitude of orchards there will not be an average of half a dozen apples to the tree. Dried apples are cheap just now, but there will be very few dried this year. We shall not be surprised, if they are worth two or three times as much as now, before a year from this date. Provident housewives will therefore do well to save all the blackberries and other small fruits they can, and when the apples begin to mature, dry all that will not bring a fair cash price. And here let us say, that much of the market value of dried apples, depends on the good peering, coring, and drying. Happening into a wholesale store the other day, we saw a purchaser take dried apples at \$4 per 100 lbs., instead of a lot offered for \$3, though the latter were every way preferable, except in not being pared clean. A little extra work in removing the skins, would have increased the saleable value at least one-third.

Save the Eyes Now—A Hint.

Probably every body now reads daily three times as much as he did a year ago. The excitement of the times keeps every one reading the news, or reading to find news. This is not to be deprecated, if it gets the mass into the way of reading more than formerly—provided the habit be turned to good account after the present excitement is over, that is, if light trashy literature does not come in to supply the place of news. But we began this item to offer a single hint about saving the eyesight, suggested by a call on a neighbor the other evening. Father, mother, and four children, were around a table reading fine type newspapers by a single central bright light. Every one of them had the paper spread on the table, with the face towards the light—the most uncomfortable, most unhealthy position that could be chosen, and the very worst one for the eyes. To say nothing of the compression of the chest and lungs, and the curving of the shoulders, the bright light fell

directly into the eyes, contracting the pupil unnaturally, and tending to produce weakness and inflammation by the effort required to read with only a few rays entering the eye. The very best position for reading, and the only one that should ever be adopted, is, to sit upright, *with the back or side to the lamp or window, and let the light fall over the shoulder upon the paper or book.* If there are windows on the opposite side of the room, change the position so that the wall or some dark object shall be *in front* of the eyes. The pupil of the eye then expands, and takes in a complete picture of the page or letters. A much smaller light will be required in the position recommended. Dr. Youman suggests the following experiment: "Sit with the face to the light, and turn down the flame until the printed letters become nearly invisible. Now interpose the hand or a book to cut off the rays coming directly to the eye, and the letters will become distinctly visible again." A strict adherence to the simple rule we have set forth, would restore half of the now weak eyes. (The other half would be mostly restored by avoiding a light too weak, and by keeping the system open, that is, free from costiveness, which deteriorates the blood and the system generally.) Book-keepers, watch-makers, mechanics, and at least all who work upon small objects, should so arrange their desks or work-benches that the light shall come in from the side upon their books, or the objects they are at work upon.

For the American Agriculturist.

"Playing in the Dirt"—Bathing.

"Oh let them play in the dirt, it's wholesome," we heard a mother say, when informed that her children were making mud pies by the roadside. Play is wholesome, particularly in the open air, but filth is not; yet many persons have strangely imbibed the notion that unwashed, neglected children thrive best. They say "look at the hardness of the little street vagabonds that throng our cities, and compare their toughness with the pale faces and puny limbs of the mothers' darlings that are never permitted to enjoy themselves for fear of soiling their clothing." But they take no account of the thousands of "nobody's children" that every year die of diseases contracted or aggravated by want of cleanliness. Those who survive, do so because of natural strength of constitution, which carries them safely through danger. As stated above, outdoor exposure is indispensable to high health, and it is want of this, not clean clothing, which injures the "mothers' darlings."

A coating of dust upon the skin interferes with its proper function. If this covering of the body be examined with a magnifier of high power, there will be discovered myriads of little orifices called pores which are outlets for a large part of the waste matter or dead particles of the body. If this poisonous matter be kept in the system, it will overload and derange other organs, and if it occur to any great extent, will cause active disease. A person varnished over completely, so as to stop all the pores, would die, after a time.

Few things tend to the promotion of sound health more than frequent ablution of the whole person. If laborers would take a morning bath twice or three times a week, and thus keep the skin well cleansed, they would be abundantly repaid in the comfort and vigor which the process would impart.

SALUS.

REMARKS.—We have nothing to say against the general plea of "Salus," for neatness. But

there has been not a little nonsense written and spoken concerning bathing, within a few years past. It is a question whether more lives have not been lost than saved by the morning bath in cold water. We will not deny that a person of vigorous constitution may break ice in the water, and take a brief wash or plunge in it, with no injurious effect, and even with benefit if a speedy reaction is unfailingly secured; but the fact is, few persons will secure the proper reaction unless under the immediate direction and oversight of a skillful physician. We have tried a daily, tri-weekly, semi-weekly, and then a weekly morning cold bath, and caught many a cold, notwithstanding all the skill and "science" we could bring to bear. This cold water morning bathing may be "meat" to some, but it is "death" to us, and to many others we wot of. We now luxuriate on a weekly or semi-weekly bath, in a comfortable room, with the chill taken off the water, and but little time occupied in the process, finishing off with a brisk rubbing, with a moderately coarse towel, not with a curry-comb, splint brush, or half-hatched flax towel.

A common mistake is, that those laboring out-doors, in dust and sweat, most need to bathe. Such persons sweat off the accumulations upon the skin, and though frequent bathing will conduce to their "good looks," to their comfort, and to lessening the labor of washing their garments, yet they need this operation much less, so far as health is concerned, than your caged gentlemen and ladies who seldom put forth effort enough to get up a free perspiration. The filthiest, most unhealthy skin, belongs to the neat body who dwells on Brussels carpet where not a particle of dust is permitted to rise, but who never exerts herself enough to 'raise a dust.'

Our lives are artificial, in part, and we can not in all respects follow the indications of nature; yet if constant bathing is *essential* to health, it must have been an oversight in the order of nature, that we were not born with gills and fins.

The most unhealthy skin would seem to be one from which the delicate oily secretions, naturally provided to lubricate the seven million tubes of the skin, is kept constantly removed by ablutions of soaps, alkalies, and water.—Ed.

For the American Agriculturist.

Bags versus Boxes.

Boxes are unaccommodating, obstructive articles of furniture, unless one has more room where to bestow goods than falls to the lot of most American housekeepers. They require standing room, and as one can seldom have them just of the size needed to contain articles to be stored, much space is wasted by their use. Some things, as articles of clothing, bedding, etc., must have boxes or drawers for their proper keeping: but for all which will admit it, I prefer to use bags. These can be hung up anywhere, and they occupy no more room than is needed, and if necessary several can be placed upon the same nail. A large bag hung in the closet for the reception of soiled clothing, is much more convenient than the clothes-basket, which is always in the way. Some careless housekeepers I know, have neither, but appropriate a corner of the sleeping room for soiled linen, etc., until washing day—a most untidy practice. A bag or large pocket to hold shoes when not in use is a great convenience. A good way to make it, and others which are frequently used, is, to leave one side a few inches longer than the other, and bind it with wide tape. Make a loop in

the tape at each corner of the long side, for convenience in hanging; it is then always handy to get at the articles it contains. The comb and brush may have a small bag made in the same manner. It will look much more tidy than to deposit these articles upon the toilet table or mantel-piece. Patches, strings, waste paper, buttons, etc., also seeds, and various little articles used in culinary operations, can be most conveniently kept in the same manner. If the various receptacles are made of uniform style, they will have a neat, orderly appearance.

MARTHA.

About Eggs.

An egg of the average size weighs 1000 grains, or one-seventh of a pound. Three-fourths of its weight is water. One-seventh is albumen, a highly nutritious substance, resembling lean meat in its composition, and therefore adapted to produce strength of muscles when consumed as food. One-tenth of the weight of the egg is fat or oil, which is useful to supply carbon for respiration, and heating the body, and therefore especially valuable for eating in cold weather. The yolk contains some sulphur and phosphorous compounds, the latter affording materials for the structure of the bones. The shell is chiefly carbonate of lime—similar in composition to marble or lime-stone. The shell is porous, and admits air for the chicken before it breaks out. Of the entire egg the shell weighs about one-tenth; the yolk, three-tenths; the white or transparent portion, six-tenths. The composition of an egg is quite similar to that of a piece of good fat beef steak with the bulk of the loose fat, or tallow, trimmed off; eggs are therefore nutritious food. Seven eggs, weighing a pound, are nearly as valuable for food as a pound of good meat, and they generally cost much less. During the past few months seven eggs have cost only 7 cents at retail, in our market, while a pound of sirloin beef has cost 14 to 16 cents, and a good steak from the round, 12 to 14 cents per pound—being two to one in favor of eggs.

In cooking eggs, most families boil or fry them hard. This renders them bad to digest, unless they are masticated very fine, and this is seldom done in rapid eating. They are every way better if soft-boiled, and after a little practice in eating them thus, a hard-boiled egg is comparatively dry and tasteless. An egg placed in boiling water just three minutes, or if a large one 3½ to 3¾ minutes, is abundantly cooked. After removing from the water, the eggs need to stand a few minutes to heat through to the center. After becoming a little accustomed to them, eaten with the addition of a little salt and pepper, or other condiment, eggs thus cooked are palatable as butter, instead of requiring to be covered with butter.

PRESERVING EGGS.—As above stated, the shells are porous, and the water of the egg is constantly evaporating, and air entering to take its place. After a time, decay commences. It will readily be seen that stopping the pores of the shell will tend to preserve the contents in their natural state. This may be done by dipping them quickly in melted tallow, or coating them with sweet oil, or a solution of gum, or varnish. Milk of lime, that is, fresh slaked lime mixed with water to a milky consistence, fills up the pores pretty well. Thus coated, they only need to be placed in a cool place, of somewhat uniform temperature. A packing of chaff, bran, salt, ashes, charcoal, dry saw-dust, or any simi-

lar porous material, preserves the uniformity of temperature by means of the non-conducting air confined in the spaces. Perhaps there is no simpler way of keeping eggs than to dip them in melted tallow, pack them in dry chaff, and store them in a cool dry cellar.

Never Cook in Copper.

People do a thousand bad things, and because they continue to exist—not to live in the full sense of the word—they keep on in the bad practices, and laugh at “notional” persons who are careful about little things. The housewife who has a fine copper or brass kettle, which is so handy to use in all sorts of cooking operations, will probably throw down the *Agriculturist* when she reads this item, with the remark that “it’s all book nonsense.” But we wish to tell her, nevertheless, that every item of sauce or food she cooks in a copper or brass vessel is poisoned. The amount of poison in each case may be small, and a person with a vigorous constitution may eat out of brass or copper for many years without dying; but from what we know of the chemical nature and affinities of copper, we would just as soon take a small dose of arsenic as to eat fruit, or other food, cooked in a copper or brass kettle, unless the inner surface be kept perfectly coated with tin.—*Agriculturist*.

Notes on Currant Jelly.

A “Jersey Housekeeper” furnishes to the *American Agriculturist* some notes on Currant Jelly, from which the following are extracted: The common rule of “a pound of sugar to a pint of juice,” may suit many persons, but the large majority of people will be better pleased with a sweeter preparation, say 5½ lbs. of sugar to 5 pints juice, or even 6 lbs. if the currants are very sour, like the cherry variety.—It is customary to boil down the juice and sugar together. A better plan is to first boil the juice separately for 10 to 15 minutes, and then add the sugar and boil 5 minutes or more as may be needed, skimming as necessary.—Currants produce more and better jelly if used as soon as fully red ripe. They can be used a week or two later if necessary, but they then produce a poorer jelly, and require more boiling—sometimes, when much over-ripe they will not form a jelly, without half an hour or more of boiling, sometimes not at all.—Currants picked from the tops and outside of bushes, where they have been exposed to the direct rays of the sun, make a finer jelly than those from the inside and lower shaded portions of the bushes. They should be picked dry, as dew or rain on the leaves materially injures the fruit for jelly-making.—The addition of a pint of raspberry juice to 8 or 10 pints of currant juice, gives a delicious flavor to the jelly.—A porcelain lined vessel is preferable for boiling all kinds of sweetmeats.—All jellies keep better if put into tumblers, or very small molds, jars, or bowls. For covers, use firm strong paper well pasted down at the edges. Slitting the outer edge of the paper facilitates the turning down and pasting, but no slits should extend in to the top of the vessel, or air will be admitted.

Blackberry Wine.

Several recipes for making this have been published in the *Agriculturist*, nearly all of which we have tried. The following has proved best in our own experience. Take the ripe berries, picking out decayed ones, and press out the juice through a close linen cloth. To each quart of juice add

one quart of water in which is dissolved two pounds of good white sugar—second quality, or “B. sugar” answers well. Put into glass bottles or stone-ware jugs, and cover the mouth with millinet or any open woven cloth to admit air and keep out insects. Set in the cellar for six months, more or less, and then pour off carefully from the lees into clean bottles, and cork up for use as wanted. For large quantities, clean oaken barrels may be used, covering the bung with millinet. It is not essential to rack off the wine until wanted for use or for sale.

Currant Wine.

A judicious housekeeper, whose Currant Wine we have tried and approved, furnishes her recipe to the *American Agriculturist* as follows: Let the currants get fully ripe before picking, but carefully sort out all decaying berries; the stems need not be removed. Warm them a little, and press out the juice through close flannel. To a three gallon jug add three quarts of the juice, and 9 lbs. of white sugar, and fill up with pure water. Pulverize a bit of alum, the size of a hickory nut, and add it to the jug, shaking it. Tie lace or millinet over the mouth, and leave in a cool cellar until late in Autumn, or five or six months; then rack (or pour) off clear, and cork tightly in bottles.

To Preserve Currants.

Contributed to the *American Agriculturist* by R. H. Smith, Suffolk Co., N. Y. To 7 lbs. of ripe currants add 7 lbs. of clean sugar, and 2 lbs. of raisins. Put all in the kettle together, and let them boil slowly until the fruit is done. Then dip out and cook the syrup two or three hours. The raisins are a great improvement.

Pickling Ripe Cucumbers—Good.

At our request, Mrs. S. Gooding, Niagara Co., N. Y., furnishes for the *Agriculturist* the following directions for a preparation of cucumbers, which is pronounced extra good by several of our acquaintances who have tried them: Take ripe cucumbers, when yellow but not soft; pare and remove seeds; cut lengthwise into quarters, or if they are very large, cut into pieces smaller than quarters; put into a kettle with just water enough to cover them, adding a handful of salt, or enough to make a weak brine; boil until cooked through, but not soft, (a little alum added will harden the pickles); take out and drain well from the brine; place them in stoneware or glass jars, and cover with a syrup made by boiling a quart of vinegar with four pounds of sugar, skimming it clear. Spice by boiling in the syrup, cloves and cinnamon tied in a bag. Cover the jars and set aside in a cool place, and they will keep well through the year.

Catchup—Cucumber Catchup.

Judging from the number of recipes in vogue, we should say that “catchup” could be made of any vegetable that grows, as well as sundry other things that are not ranked as vegetables—the general formula being: Plenty of all sorts of strong spices, and a small quantity of anything else you choose, from a tomato to a green walnut, or boiled bass-wood chips. (Green walnuts, or butternuts, by the way, do make good catchup as well as good pickles.) An excellent housekeeper of our acquaintance furnishes for the *Agriculturist* the latest recipe for catchup, said to be very good; to wit: Take green cucumbers; pare and chop very fine; sprinkle on salt, and let them stand an hour or so; put into a strong cloth, and press out all the liquid possible; put the fine pieces remaining into bottles, and add vinegar, black pepper, and salt.

Cork tightly and set aside for use. Small bottles are preferable, so that only a small quantity need be opened at a time, as it molds after much exposure to the air.

Strawberry Short Cake—First Rate.

Every day we have taken dinner in the City during the past strawberry season, we have called for an article named on the bill of fare at the Home Dining Saloon, as “Strawberry Short Cake,” and at our request the proprietor has furnished to the *American Agriculturist* the following directions, which our house-keeping readers will do well to keep on hand for next year, when we hope every one of them will have plenty of good berries of their own. (See Strawberry articles on pages 241-2): Dissolve 1 teaspoonful of soda in 1 pint of sweet milk. Take nearly flour enough for a thin dough, thoroughly mix it with 2 teaspoonfuls of cream of tartar, and then rub in ½ teacupful of sugar, nearly a teacupful of butter, with a little salt. Mix the whole, adding flour enough to make it as thick as tea biscuit. Bake, split into thin slices, and butter the pieces. Have a good lot of strawberries previously well sugared, and put them between the pieces and on top, dipping over the whole a little of the juice of the berries. Let it stand in a warm place until the berries are partially cooked, and eat with sugar sprinkled over, or better, with sugar and cream if you have it. This, as we have it at home and at the aforesaid dining saloon, is good enough for any queen, and better than her fabled “bread and honey.”

N. B. Raspberries answer just about as well as strawberries for this short cake.

Nice Pop Overs.

Mrs. S. B. P., of Queens Co., N. Y., furnishes to the *American Agriculturist* a recipe for pop-overs, which having been tried and fully approved in the editor’s family, is here “passed along” for the benefit of others: Stir the yolks of two eggs with two teacupfuls of milk, two cups of flour, and a little salt. Beat the whites of the two eggs to a froth, and then add it to the batter. Dip 1½ to 2 tablespoonfuls of the batter into each patty pan, and bake 20 minutes in an oven about hot enough for bread.

Delicate or Silver Cake—Cheap and Good.

The following is to be credited to the *American Agriculturist*, which is “responsible”—no matter now, who furnished the recipe: Take 2 teacupfuls of white sugar; ¼ cup of butter; 1 cup of sweet milk; 4 cups of flour; the whites of 4 eggs beaten to a stiff froth; 1 teaspoonful of soda and 2 of cream of tartar; and flavor with vanilla, nutmeg, or lemon, or as you like. First rub the butter and sugar to a cream, and then add the other ingredients. Bake in a quick oven.

Rooster Cake.

Contributed to the *American Agriculturist* by “Aunt Molly.”—This is a queer name, nevertheless the cake may be good.—Ed.—2 cups sugar, 1 cup butter, 4 eggs, 1 teaspoonful saleratus, and a little dried fruit. Drop it in a dripping pan, and bake 15 minutes in a hot oven.

To Keep Old Cheese.

Contributed to the *American Agriculturist* by “An Old Cheesemaker.” When brought from their winter quarters in the cellar, wash and dry them; then with a paste of rye or wheat flour, cover them entirely with clean wrapping paper. They will need no further attention except to turn them occasionally on the shelves, to keep them from molding.



Fig. 10.—A "ZOUAVE."

The Editor with his Young Readers.

Explanation of War Terms.—No. II.

In the July number of the *Agriculturist*, descriptions were given of some of the heavier implements of war, with which attacks are made upon an enemy at a distance. This month we have illustrated some of the arms and equipments carried by the soldier, with a few other matters which from their novelty attract attention. Fig. 10, represents an armed Zouave, a new style of soldier in this country. The name is of French origin. Zouave soldiers were originally found in Algeria, in Africa. They were chiefly Arabs and Moors. The French conquered Algeria, and the Emperor found the Zouaves such desperate fighting men, and their dress and drill so admirably adapted for service, that he took them into his army, and also



Fig. 11.

had regiments of his own French soldiers equipped in the same manner, and instructed in their tactics. The late Col. Ellsworth, of Chicago, having witnessed the efficiency of these soldiers in the French army, introduced the style into this country. He formed and instructed a company of Zouaves, and then visited several parts of the United States and gave exhibitions of their proficiency. This led to the forming of new companies; and there are now thousands of these men engaged in the war. The dress of the Zouave is simple but admirable. It consists of a loose flannel jacket looped together at the neck, and wide loose trousers, also of flannel, gathered in a band above the ankle. Underneath there is a colored flannel shirt. Portions of the dress are trimmed with colored braid, according to the fancy of the various regiments. The feet are encased in a peculiar kind of shoe, of light color, intended expressly for marching, and some regiments have leather leggings extending from the shoe to the bottom of the trousers. The head is covered with a flannel cap, often without any front piece, and with a large tassel hanging behind. The whole dress is light and loose, and enables the wearer to move freely in any direction.

The drill of the Zouaves requires greater activity than the ordinary evolutions of soldiers. They are taught to load and fire in almost every position, kneeling, lying down, or on the full run. They are also trained in gymnastic exercises, so that a well disciplined company will mount a wall without ladders, by climbing upon each others shoulders. Their drill with the bayonet makes them almost invulnerable against the attacks of cavalry.

The Zouaves are generally armed with the *Minie* rifle. This is like the common rifle; except in the

construction of the ball. The ordinary musket, you remember, is smooth-bored and is loaded with a cartridge (Fig. 11.) consisting of a small paper tube filled with powder, and having a round ball fastened to the end. In loading, the soldier bites off a bit of the paper, pours the powder into the barrel, and then rams down the ball and empty cartridge paper, which serves as wadding. The rifle ball was formerly made round like the musket ball, and by forcing it down the grooved barrel, its sides were fitted into the grooves of the rifle. The *Minie* ball is shown in Fig. 12. It is conical or pointed in front, and the back part is cast with grooves or rings. The back end is hollow, and filled with powder. It slips into the rifle easily, but when the piece is fired the powder expands the lead of the hollow part, and forces it into the grooves of the barrel. This causes it to rotate in its passage outward, as was described in the July *Agriculturist*. The ball was named *Minie*, from its French inventor, Captain *Minie*.—*Sharp's Rifle*, Fig. 13, is so constructed that it is loaded at the breech. The curved metal plate on the under side of the stock, called the guard, turns downward and opens a chamber in the rear of the barrel, into which the charge is slipped. This rifle can be loaded very rapidly; it is much used by troops on horseback or cavalry.



The *bayonet*, Fig. 14, is a sharp pointed steel instrument made to fit on the end of a musket. It is named from Bayonne in France, where it was first made. It is a terrible instrument in the hands of active men at close quarters. When not in use, it is usually carried in a scabbard in the belt of the soldier.—The *Saber* *Dragoon*, Fig. 15, is an improvement on the old style. It may be used alone as a sword, or fastened to the gun by means of the ring on the side, and the notch in the handle.—The *Revolver*, of Fig. 14 which there are many different sorts, is too well known to need particular description. It is a pistol, made of various sizes, with from five to seven barrels, which revolve or turn at each cocking of the lock, so as to bring a loaded barrel under the hammer, until all are fired. The *Colt's Revolver* and several others, have but one barrel with spiral grooves, like a rifle. The charges are put into tubes in a cylinder at the breech, which is turned around to bring the successive charges against the barrel. This makes the pistol lighter than if there were half a dozen barrels of full length.

The *Bowie Knife*, Fig. 16, is a murderous weapon, carried in the belt, to be used in close hand to hand conflict. There is seldom need of it, as the bayonet and the revolver usually answer all purposes. Hunters find this a convenient weapon for slaughtering wounded animals, and removing their skins.—The *Cavalry Sword*, Fig. 17, is carried by soldiers on horseback, in addition to the short guns (carbines) with which they are usually armed. They use their swords in making a charge, that is riding at full gallop among the enemy, and hacking them to pieces.

The *Broadsword*, Fig. 18, is carried by officers of a regiment.—Besides the weapons which the soldier carries, he is furnished with a knapsack, or square leather case, strapped to his shoulders, as shown in Fig. 10. In this are carried extra articles of clothing, and a tin plate, or pan, and knife and fork. He has also attached to his belt, at the right hip, a small leather box called the *cartridge box*, for holding ammunition. The *canteen*, also fastened to the belt is a small flat bottle of tin, india rubber, etc., for carrying water. The blanket which serves as a protec-



Fig. 13.

tion from rain and cold, and for bed clothing at night, is packed in a small roll, strapped on top of the knapsack. The various articles carried by a fully equipped foot soldier, weigh from forty to fifty five pounds.—The *Havelock* is a white linen covering for the cap, with a cape attached, for protecting the head and shoulders from the sun. It was invented by Gen. Havelock, in India, and is an admirable contrivance for preventing sun stroke. Figs. 20 and 21, represent two different forms of this article. They would be excellent for farmers to use in the field in hot weather.

Organization of an Army.

When a large number of men are assembled for any purpose, some kind of order and discipline must be maintained; otherwise there will be constant confusion, and very little can be effected. The greater the number of soldiers, the more they would be in each other's way, and the more easily they could be routed, if each man were not instructed to occupy a particular place, and to move in unison with his comrades. A single company of one hundred disciplined troops, will easily put to flight a thousand persons assembled in a mob.

In order to proper discipline, all armies are divided into small numbers of men, each under command of its proper officer. The unit or lowest branch of an army is called a *Company*. It contains from fifty to a hundred men, including officers. Most companies in war have the latter number.



Fig. 17.

The officers of a company are the Captain, and two lieutenants, who are called commissioned officers, and from four to six sergeants, and the same number of corporals, called non-commissioned officers. The company formed on the field, is divided into two equal parts called *platoons*, and each platoon is subdivided into two sections. Each platoon is commanded by a lieutenant; each section by a sergeant, assisted by a corporal. The captain commands the whole company; his orders being repeated and carried out by the inferior officers. The first Sergeant is also called the *Orderly Sergeant*. He carries the books of the company, and calls the roll night and morning.

If the Captain falls in battle, the first Lieutenant takes his place. Two or more companies up to the number of five, or half a regiment, form a *Battalion*. This name is sometimes given also to a whole regiment. A *regiment* is made up of ten companies, and thus numbers a thousand men, when full. The officers of a regiment, besides the usual company officers, are the *Colonel*, or first in command, next to him a Lieutenant Colonel, then 2 Majors, 1 adjutant, 1 Quartermaster, 1 Commissary. The *Quartermaster's* duty is to provide lodging places or quarters, and to furnish clothing for the regiment. The *Commissary* has charge of the provision department. He purchases the food, and gives out the rations or portions to which each man is entitled. The other regimental officers, named above, repeat to the men and carry into effect the orders of the Colonel. A *Brigade* is composed of two or more regiments, to which are usually added one or two companies of cavalry, (soldiers on horseback,) and a number of cannon with their artilleryists or men to work them. The *Brigade* is commanded by a *Brigadier General*, who is assisted in executing his orders by several officers called the *Staff*, who are taken from the regi-



Fig. 16.

Fig. 10.

Fig. 13.

Fig. 14.

Fig. 15.

Fig. 16.

Fig. 17.

Fig. 18.



Fig. 19.—A SCOUT.

mental officers. They are also called *Aides-de-Camp*. When two or more *Brigades* are united, they form a *Division*, which is commanded by a *Major General*, assisted by his *Aides-de-Camp*. Additional companies of cavalry and artillery are generally attached to a *Division*. The *Major General* is the highest officer under the *Commander in Chief*. In this country the President is *Commander in Chief* of all the land and naval forces. One of the *Major Generals* is, under the President, the acting *Commander in Chief* of all the forces. General Winfield Scott now holds that position, and in consideration of his long, efficient services, Congress conferred upon him the honorary title of *Lieutenant General*.

Miscellaneous War Terms Explained.

Flank.—The right or left of a body of troops. *Flankers* are numbers of men stationed on the sides of an army or regiment, to guard against an attack. *Wings*.—The right and left portions of an army. *Skirmishers* are bodies of men sent out in advance to engage the attention of an enemy. *Zouaves* or other riflemen are usually assigned for this duty. *Scout*.—A soldier sent out to gather information of the position of the enemy. A *Spy* usually goes in disguise, and if possible enters the opposite camp to learn about their strength, movements, etc. *Reconnaissance*.—The survey and examination of a portion of country, with a view to military operations. *Pioneers*.—Soldiers equipped with axes, saws, etc., for clearing the way before an army, and to entrench or build defences. *Sappers and Miners*.—Soldiers whose duty is to make ditches, and open subterranean passages for blowing up fortifications with gunpowder. *Sentinel*.—A soldier placed to watch for the safety of the camp, prevent all intrusion, and give notice of an approaching enemy. *Picket*.—Several soldiers placed together on guard at the outposts or furthest limits of a camp. *Vidette*.—Sentinels on horseback, stationed at the outposts. *Challenge*.—The call of a sentinel, "Who goes there?" addressed to a person approaching. *Countersign*.—A secret word, by repeating which to the sentinel, a person is permitted to pass the lines of an encampment. The countersign is changed daily. *Patrol*.—A small party under a non-commissioned officer, which goes through or around an encampment at night, to keep order. *Ambuscade*.—A body of troops in concealment for the purpose of surprising an approaching enemy. The hiding place is called an *ambush*. *Masked Battery*.—One or more pieces of cannon hid or masked from observation by brush, trees, or other means. *Bivouac*.—To pass the night without shelter, except from trees, or temporary huts of branches, etc. *Billeting*.—The temporary occupation of the houses of a town by soldiers. *Garrison*.—A for-



Fig. 20.



Fig. 21.

tified place in which troops are quartered; the name is also applied to the troops themselves. *Furlough*.—Leave of absence for a limited time. *Pardole*.—The promise or word of honor, given by a prisoner to his captor. *Mutiny*.—Disobedient or refractory conduct among troops, with resistance to officers. *Enlist*.—To enter the service of the army. *Recruit*.—A newly enlisted soldier. *Amnesty*.—Pardon and release from all offences connected with war. *Armistice*.—Temporary suspension of hostilities. *Fortifications*.—Works of various kinds, as embankments of masonry, earth, etc., for defence of troops. *Fort*.—Any military work designed to strengthen a point against every attack. Important and finished works of this kind are called *Fortresses*. Fort Monroe, at the mouth of the Chesapeake Bay, is the only fort in this country so completely fitted up with all kinds of defences as to be called a *Fortress*. *Abatis*, (pronounced Ab-bat-tee).—Trees thrown down together with their branches outward, to obstruct a passage. *Approaches*.—The lines of entrenchment, ditches, etc., by which besiegers protect themselves in approaching a fortified place. The principal trenches are called *parallels*. *Banquette*.—A small bank of earth on which soldiers stand to fire over the top of the wall which shelters them when loading. *Barbette Guns*, are those which are fired from the top of the wall of a fortification; they are partly protected in front, but not overhead like guns in the casemate. *Barriade*.—To obstruct a street or passage with any materials at hand, as wagons, stones, rails, trees, etc. *Bastion*.—That portion of a fortification which is advanced beyond the general line of the work. The part of the wall between two bastions is called a *curtain*. The bastions are so arranged at the corners or angles of forts, that grape shot, etc., can be fired from them along the outer face of the wall or curtains, and thus destroy an enemy attempting to scale (go over) the walls with ladders. The bastions are usually higher than the walls, so that they can not themselves be scaled. *Battery*.—Any number of cannon taken together, numbering from two upward to a dozen, twenty or more. This is also called a *park* of artillery. *Caisson*.—The ammunition carriage accompanying a field piece. *Casemates*.—Bomb-proof chambers in fortifications from which heavy guns are fired through openings called *embrasures*. *Arsenal*.—A public storehouse for cannons, guns, and other implements of war. *Barracks*.—Buildings provided by the Government for lodging the troops. There are other matters pertaining to war, ships, etc., which we may explain at another time.

An Eventful Period—Making History.

This is indeed an important ERA. The American people are now making a history that will be read with interest, not only when the boys and girls of to-day shall have grown gray with age, but for centuries to come. None of the events recorded in the history of Greece and Rome, that are still read with so much interest, were of such world-wide importance, as what is now transpiring in this year of Grace 1861. Our young readers, and even grown people, who pore over the details of the War of the Revolution, and that of 1812, can hardly realize that a greater strife, and if possible a more important one, is now in progress in our very midst. The result is to determine, for the benefit of the whole world, whether or not a free government like ours, is a strong one, capable of endurance, and adapted to the wants of the human family. This struggle, its causes, its details, its results, will be constantly written about, talked about, and referred to in the highest legislative councils of this and other countries, longer than the youngest child that reads these pages will live. Let all the youth, then, read about and study the transpiring events of the day, and let them be discussed at the fire-side, at the table, and in the school room.

How to Learn Geography.

In these days of newspapers, when accounts are given of what is going on in every part of the world, and particularly when so much of interest is transpiring in our own land, it is very important to

have a good idea of the situations of the countries and towns, otherwise there will be less interest in what is read. The best way to acquire this knowledge is to always have a map at hand when reading an account in which places are mentioned, and to look out each one as soon as you come to it in reading. In this way, you will become more interested in the subject, and the geographical knowledge thus obtained, will be better remembered than by merely learning lessons from a work on geography in which little interest is felt.

Learn to Punctuate.

We receive hundreds of letters from our young friends of the *Agriculturist* family every year, each one of which is as pleasant as a flower fresh from the garden: they are fragrant with good wishes, and sometimes wit sparkles in them like dew drops on a rose. Usually the writing is plain if not always handsome, and the spelling good. But few have been taught to put the commas, semi-colons, periods, etc., in their right places. "Oh, I thought that was the printer's business," says some one. That's a mistake. The printer's rule is "Follow the copy, even if it flies out of the window;" that is, make the types say just what the writing says. The Editor reads what is to be printed, and corrects mistakes in spelling and punctuation, and a funny job of it he has sometimes. He has it to do, not because it is his business, but because other people neglect their business. Don't imagine we're scolding any body—not at all—we are only correcting a mistaken notion about punctuation; and we write thus, not for our own sake, but for yours.

You write many letters, etc., which are not intended for printing. Whose work is it to punctuate these? The points are necessary to show what is meant. The Editor is often puzzled to make out the sense of a letter, merely because a comma is omitted or misplaced. Take this sentence, for instance: "He wore a cap on his feet, galter boots on his hands, kid gloves astride his nose, curious spectacles!" Curious spectacles indeed! But place commas after *cap*, *boots*, and *gloves*, and then all comes right. We often receive letters on business and other matters, which it is impossible to understand, simply for the want of a comma, or two.

Perhaps your teachers have never instructed you in the art of punctuation. Ask them to please teach you how to use points properly, or if this can not be done, get some book which gives directions, and make it a rule never to write any thing, not even your name, without punctuating. Most persons, we believe, can punctuate so as to make the sense clear, without the aid of books or rules.

New Problems.

No. 18.—Illustrated Rebus, suited to the times.



No. 19.—Military Letter in Cypher.—This is more difficult than the one given in July.

bk jdukhz yu tihane wohnrusj nt tij bkjg fz kawzmkxz.

No. 20.—Scriptural Enigma, communicated to the *American Agriculturist* by an anonymous correspondent. It was written in good rhyme, but being difficult to translate into German, we have reduced it to prose, when it reads as follows:

A king who fell through a lattice; the prophet who anointed Saul; a leader who delivered the Jews from a Mesopotamian king; a Roman Governor to whom the Jews brought a prisoner; a City where an Apostle left his cloak; a man who spoke before a king the words told him by his brother; one who was burned while offering strange fire; a city destroyed by fire; what an Egyptian ruler sent to his father; a King of Moab who was murdered; a comely maiden who gleaned in the field; the num-

ber of lepers healed by Christ at one time; a man smitten for touching the ark; a girl who heard Peter knock; a man who lived with beasts; one who could not find repentance; a doubter; one who lived in a college at Jerusalem; a blind prophetess; what the Sadducees and Pharisees were warned from; a tent-maker; what Jeroboam said the king had made grievous; the place where the forerunner announced Christ; a young woman who came to draw water from a well; a man whose hair caused his death; one whose mother and grandmother taught him the scriptures; a man who sold a cave.

The first letter of each of the names and words indicated above, will give a Scripture proverb. What is the proverb, and what are the names?

Answers to Problems in July No.

No. 15.—*Interest and Discount Question.* (See page 218.)—Seven answers have been received, as follows: \$3641.80; \$2849. (by two readers); \$3657.17 by two readers; \$3597.59, and \$3646.09. These can not all be right. We shall leave it another month for our young readers to work at.

No. 16.—*Arithmetical Question.*—(July No., page 218.)—Gold is weighed by Troy weight, in which 5760 grains equal a pound; lead is weighed by Avoirdupois weight, in which 7000 grains equal a pound. Hence it requires $\frac{5760}{7000}$ of 16 ounces of lead to equal the weight of a pound of gold, or 13. $\frac{29}{175}$ ounces.

No. 17.—Military letter written in cypher. The key to the translation is as follows: each letter of the words, is replaced by another found three letters distant from it in the alphabet. Thus: S is represented by V; E is represented by H; etc.—Vhgg zlwkrw ghodb wkuhh uhlphqwr r lqidq-wub wr dohadqguld zlwkdwrqrw irn wkuhh gdbv. Answer: Send without delay, three regiments of infantry to Alexandria, with rations for three days.

Correct answers received, and not previously acknowledged, from;

E. E. and C. F. B., No. 8 (in May No. The only one exactly right), 9, 10; Nell Earring, 9; Mollie and Sallie Elliott, 8, 11; Della S. Mitchell, 10; L. T. Updike, 9; Jarvis H. Arnold, 9, 10; Mills P. Baker Jr., 8, 9; A. W. Sexton, 12; Horace P. Gage, 12 (with solution complete); Eliza Cook, 11, 12; C. L. Siewers, 11, 12, 13, 14 (well done); William G. Kieffer, 11, 12; Gertrude Kieffer, 11; Davault K. Milikan, 12; Isaac Oliver, 12, 13; Eleazer Kersey, 11; H. B. Ten Eyck, 11; Theodore T. Kieffer, 11; Eli Phillips, 12; Olive Robinson, 11; George Wright, Mary Costello, 11, 12; Herrick J. Raynor, 12; "Subscriber" at Brandywine Hundred, 12; Justus Riehl, 12; Alexander Chalmers, 12; William Wiley, 12; Harry Jones, 12; Olive A. Barghey, 13; Elizabeth E. Ferington, 13; B. Sullivan, 11; G. K. Owen, 11, 12; Wilford Wilson, 11; Almon S. Givitzer, 12; William Burton, 9, 11, 12; Wesley Carpenter, 12; Joseph Vipoy, 12; W. Boyers, 12; H. N. Tiffany, 12; John N. Wells, 11; C. B. Harvey, 12, 14; E. C. Long, 12; R. Jennings Harris, 12; Jacob Staefler, 12; Lottie Myers, 12, 14; J. Frank Phillips, 16; Joseph Badger, 16, 17; J. E. Brown, 15; C. Everett, 17; E. W., 17; Geo. E. Hull, 16; Ermon A. Hull, 16; T. D. Stevenson, 16; Acusinet, 16, 17; Thomas McDonogh, 16, 17.

Scraps and Clippings.

MAJOR JACK DOWNING once said to Gen. Jackson: "Gin'ral, I have always observed that those persons who have a great deal to say about being ready to shed their last drop of blood, are amazin' pertic'lar about the first drop.

ETERNITY has no gray hairs. Here the flowers fade, the heart withers, man grows old and dies, the world lies down in the sepulchre of ages; but time writes no wrinkles on eternity! Stupendous thought! Earth has its beauties, but time shrouds them for the grave; its honors are but the sunshine of an hour; its palaces—they are but gilded sepulchres; its pleasures—they are but as bursting bubbles. Not so in the untired Eterne. In the dwelling of the Almighty can come no footsteps of decay. Its way will know no darkening—eternal splendor forbids the approach of night.

VERY CONSCIENTIOUS.—"I sell peppermints on Sunday," said an old lady who kept a candy shop, "because they carries them to church and eats 'em, and keeps awake to hear the sermon; but if you wants pickled limes, you must come on week days. They're secular commodities."

PURSUIT OF PLEASURE UNDER DIFFICULTIES.—Attempting to eat soft mush and milk out of a jug with a knitting needle.

If you lost your nose what would you do for another? Take the first that turns up.

THE ARAB'S PRAYER.—"O God, be kind to the wicked; to the good thou hast already been sufficiently kind in making them good."

Whoever in the darkness lighteth another with a lamp, lighteth himself also. GELLERT.

"Accept God's gifts with resignation,
Content to lack what thou hast not:
In every lot there's consolation:
There's trouble, too, in every lot!" GELLERT.

An exchange gives reasons for not publishing a "poetic" effusion, as follows: "The rhythm sounds like pumpkins rolling over a barn floor, while some lines appear to have been measured with a yard stick, and others with a ten foot pole."

John Wesley says, "When I was young, I was sure of everything. In a few years, having been mistaken a thousand times, I was not half so sure of most things as I was before. At present I am hardly sure of anything, but what God has revealed to man."

A pleasant, cheerful wife is as a rainbow set in the sky when her husband's mind is tossed with storms and tempests; but a dissatisfied and fretful wife, in the hour of trouble, is like one of those fiends who are appointed to torture lost spirits.

A sad thing it is in human nature, that a man may guide others in a good path, without walking in it himself; that he may pilot others well over dangerous reefs, and yet wreck his own vessel, on its first and only passage over the same rocks.

"Angels in the grave, will not question thee as to the amount of wealth thou hast left behind thee, but of good deeds thou hast done in the world, to entitle thee to a seat among the blessed."—Koran.

Follow the laws of Nature, and you will never be poor. Your wants will be but few. Follow the laws of the world, and you will never be rich. You will want more than you can acquire.

If it be important to know whether a man will cheat you if he can, sound him as to his willingness to help you cheat somebody else.

With time and patience the mulberry leaf becomes satin. What difficulty is there at which a man should quail, when a worm can accomplish so much from a leaf.

A man who covers himself with costly apparel and neglects his mind, is like one who illuminates the outside of his house and sits within in the dark.

Ignorance and conceit are two of the worst qualities to combat. It is vastly easier to dispute with a statesman than a blockhead.

There is an essential meanness in the wish to get the better of any one; the only competition worthy a wise man is with himself.

Be calm and quiet in your life. You are not necessarily servicable to others when you are troublesome to yourself.

The lays of a nightingale may be very delightful to a well fed man, but the "lays" of a hen are liked better by a hungry one.

An inventive Yankee has produced an apparatus which he says is a cure for snoring. He fastens upon the mouth a gutta-percha tube leading to the sleeper's own ear.

A recent philosopher has discovered a method to avoid being dunned.—"How?—How?—How?" Everybody asks. Never run in debt.

Dr. Franklin says, that "every little fragment of the day should be saved"—therefore when the day breaks, we should begin to save the pieces.

It is said that pearls are formed in Oysters by the secretion of crystalline matter caused by wounds, hence these gems have been called "the tears of the oyster."

None ever have been so good and so great, or have raised themselves so high, as to be above the reach of troubles. Our Lord was "a man of sorrows."

No man has a right to do as he pleases, except when he pleases to do right."

In matters of conscience, the first thoughts are the best; in matters of prudence, the last.

The best physicians are Dr. Diet, Dr. Quiet, and Dr. Merryman.

Which is the queen of roses in the garden?—The rose of the watering pot; it rains over all the others.

It is a great waste of raw materials to put five dollars' worth of beaver on ten cents' worth of brains.

When is a man, like friendship, most severely tried? When he stands a loan.

We may always joke when we please, if we are always careful to please when we joke.

The praises of others may be of use in teaching us, not what we are, but what we ought to be.

It is a dull and hurtful pleasure to have to do with people who approve of all we do or say.

It is a glorious thing to resist temptations, but it is a safe thing to avoid them.

If a man cheats you once, blame him; if a second time, blame yourself.

The man who confines himself to the drink which is best for him is well-supplied.

The discontented man finds no easy chair.

Newspapers and Periodicals in the United States.

We give below an abstract from a list of Periodicals issued in the United States for the present year, according to the "American Newspaper Directory, etc.," recently issued in this city. The list, made up for the beginning of the year, was far too large, we are quite sure, and a large number of papers have "died" since January. The list names 61 as devoted to agriculture and farming, but there are not 50 of this class—we can not number over 45, including horticultural and agricultural. There are now, we judge, just about 4,400 periodicals, including dailies, semi-weeklies, weeklies, monthlies, and quarterlies. The Directory gives 5,253, issued in 2,042 cities and towns, and distributed as follows:

Daily papers.....450 Weekly papers.....4,273
Tri-weekly papers.....74 Monthly papers.....356
Semi-weekly papers.....63 Quarterly papers.....38

Of these, there are set down to New-York City, 256; to Boston, 136; to Philadelphia, 93; to Cincinnati, 70; to San Francisco, 57; to St. Louis, 55; to Chicago, 53; to New-Orleans, 46; to Baltimore, 37; to Louisville, 27; to Richmond, 20; to Charleston, S. C., 12; to Brooklyn, N. Y., 8.

By States they stand:

New-York.....	851	Louisiana.....	117	Connecticut.....	64
Illinois.....	455	Alabama.....	114	South Carolina.....	60
Pennsylvania.....	440	California.....	113	Arkansas.....	56
Ohio.....	436	New-Jersey.....	108	Kansas.....	49
Massachusetts.....	282	Tennessee.....	100	New-Hampshire.....	45
Indiana.....	262	Maryland.....	92	Vermont.....	42
Iowa.....	197	Georgia.....	91	Florida.....	28
Virginia.....	186	North Carolina.....	91	Rhode Island.....	22
Missouri.....	178	Mississippi.....	86	Oregon.....	18
Michigan.....	152	Kentucky.....	84	Delaware.....	15
Wisconsin.....	143	Maine.....	74	Dist. Columbia.....	15
Texas.....	128	Minnesota.....	66	Territories.....	26

The Union States have 4,193 of these periodicals, and the Seceding States 1,057.

In language, there are 253 German; 16 French; 5 Welsh; 4 Spanish, (this is too small); 3 Italian; 1 Indian.

In contents they are classified; Politics and news, 4,728; Religious, 324; Agriculture, 61; Medical, 44; Price Currents, 26; Temperance, 13; Arts and Sciences, 10; Railroads, 10; Mining, 9; Music, 8; Law, 6; Scientific, 5; Free Masonry, 5; Printing, 4.

Our Exhibition Tables.

The following articles not before noticed, have been recently exhibited at the office of the American Agriculturist.

FRUIT.—*Strawberries.*—Boyden's Mammoth, 4½ inches in circumference, and Wilson's seedling, by C. S. Pell, Supt. N. Y. Orphan Asylum; Chorlton's Prolific, W. Chorlton, Staten Island, N. Y.; Austin's Seedling from Shakers at Watervliet, by W. S. Carpenter, N. Y.; also specimens by J. C. Thompson, Staten Island, N. Y.; Triomphe de Gand, very fine, Scottish Seedling, Wilson's Improved, and Chorlton's, W. F. Heins, Esq., N. Y. Union, O. Judd; Boyden's Mammoth and Austin's Seedling, Robert Benner, Queens Co., N. Y.; Wilson's Seedling, and Hurd's Goliah, splendid specimens, J. Knox, Alleghany Co., Pa.—*Mulberries*, two varieties, S. Tuttle, New-Haven Co., Conn.—*Gooseberries.*—G. M. Usher, and J. C. Thompson, Staten Island, N. Y. Fine branches, by Robert R. Dare, N. Y.—*Currants*, White Grape, very fine, J. C. Thompson; Red Dutch a very full branch of beautiful berries, George Pollock, Westchester Co., N. Y.

FLOWERS: Double Apple Blossoms, very curious, J. F. Cleu, Dutchess Co., N. Y.; Papaver Orientale, a magnificent bloom, also Arum dracunculoides, or Dragon flower, very large and showy; H. T. Haviland, Kings Co., N. Y. Rhodanthé Mangiesli, Forget-me-nots, Swan River Daisy, Zinnias, a beautiful collection of Poppies, and other cut flowers, O. Judd; Cereus Grandiflora, a splendid bloom preserved in Alcohol, A. Janes, Westchester Co., N. Y. New variegated Larkspur, very pretty, Mr. Wilson, N. Y.

VEGETABLES, ETC.—Fine growth of Victoria Rhubarb

George W. Underhill, Queens Co., N. Y. Passaic Giant Rhubarb, new seedling, W. H. Merrill & Co., Passaic Co., N. J. Bermuda Potato Onions, large and fine. S. B. Conover, Washington Market, N. Y. Early six weeks sweet corn, ready for cooking, G. M. Usher, Staten Island, N. Y. Long Island Rye, 6 feet 9 inches high, A. McCatler, Suffolk Co., N. Y. Splendid growth of Rye and Timothy, Edwin Keeler, Westchester Co., N. Y. Flour from California wheat, ground on Bennett's Burr Stone farm mill.

Flax Cotton—Premiums.

The Rhode Island Society for the Encouragement of Domestic Industry offer a Premium of \$30 for a bale of not less than fifty lbs. of the best prepared Flax Cotton, fit for use on cotton machinery, accompanied with a statement of its culture, production and preparation, including cost of the various processes. And a Premium of \$20 for the second best bale of the same, on the same conditions. The bales to be delivered at the rooms of the Society on or before September 11, 1861.

The Society will defray all the necessary expenses of transportation on the bales of proper size offered for premiums, and will claim the right to retain the same at their pleasure, on payment of a fair price. The flax cotton will be open for public examination at the Exhibition of Vegetables, Fruits, and Flowers, to be held by the Society at Railroad Hall, Providence, September 11, 1861. Communications on the subject should be addressed to W. P. STAPLES, Secretary.

Agricultural Exhibitions for 1861.

Owing to the deranged state of the country, many Agricultural Societies have, unwisely we think, decided not to hold their usual Exhibition this year. The list published below contains all we have received notice of up to the date of July 18th. It is, as will be noticed, considerably smaller than that published in the corresponding month last year. We will thank managers of Agricultural Societies, or others interested, to notify us of any omissions, that the list may be made as complete as possible in our next issue.

Name.	Where held.	Date.
Wisconsin.....	Milwaukee.....	Sept. 2-6
Illinois.....	Chicago.....	9-14
Ohio.....	Dayton.....	10-13
California.....	Sacramento.....	16-21
New-York.....	Watertown.....	17-20
Kentucky.....	Louisville.....	17-21
Canada West.....	London.....	24-27
Iowa.....	Iowa City.....	24-27
Minnesota.....	St. Paul.....	24-27
Oregon.....	Oregon City.....	Oct. 1-4

COUNTY FAIRS.

NEW-HAMPSHIRE.		
Hillsboro'.....	Milford.....	Sept. 25-26
VERMONT.		
Rutland.....	Rutland.....	Oct. 2-3
MASSACHUSETTS.		
Worcester North.....	Fitchburg.....	Sept. 25-
OHIO.		
Clermont.....	Olive Branch.....	Sept. 3-6
Franklin.....	Columbus.....	3-6
Ashtabula.....	Jefferson.....	4-6
Madison.....	London.....	4-6
Clermont.....	Bantam.....	10-13
Geauga.....	Burton.....	17-19
Portage.....	Ravenna.....	18-19
Guernsey.....	Cambridge.....	18-20
Lake.....	Painesville.....	19-21
Tuscarawas.....	Canal Dover.....	22-24
Morgan.....	McConnellsville.....	24-26
Trumbull.....	Warren.....	24-26
Miami.....	Piqua.....	24-27
Pickaway.....	Circleville.....	25-27
Jefferson.....	Steubenville.....	25-27
Columbiana.....	New Lisbon.....	25-27
Allen.....	Lima.....	26-28
Hancock.....	Findlay.....	26-28
Richland.....	Mansfield.....	Oct. 1-3
Summit.....	Akron.....	1-3
Maioning.....	Canfield.....	1-3
Coshocton.....	Coshocton.....	1-3
Carroll.....	Carrollton.....	1-3
Clark.....	Springfield.....	1-4
Champaign.....	Urbana.....	1-4
Butler.....	Hamilton.....	1-4
Sandusky.....	Fremont.....	2-4
Hardin.....	Kenton.....	2-4
Defiance.....	Defiance.....	2-4
Stark.....	Canton.....	2-4
Harrison.....	Cadiz.....	2-4
Greene.....	Xenia.....	8-10

CONNECTICUT.

Fairfield.....Bridgeport.....Sept. 17-20

NEW-YORK.

Rensselaer.....Lansingburgh.....Sept. 2-5
 Oneida.....Rome.....9-12
 Chenango.....Norwich.....10-12
 Delaware.....Hobart.....18-20
 Oxford (Chenango Co).....Oxford.....23-25
 Westchester.....Mount Vernon.....24-26
 St. Lawrence.....Canton.....25-27
 Ulster.....Kingston.....25-27

WISCONSIN.

Racine.....Union Grove.....Sept. 17-19
 Richland.....Richland Centre.....21-22

OREGON.

Lane.....Eugene City.....Oct. 9-10
 Washington.....Hillsborough.....16-17

ILLINOIS.

La Salle.....Ottawa.....Sept. 24-27
 Madison.....Edwardsville.....Oct. 1-4
 Grundy.....Morris.....1-4

CALIFORNIA.

Tehama.....Red Bluff.....Sept. 11-

Reports on the State of the Crops.

The following are the only definite Crop Reports received up to July 18, at which date we necessarily close the pages for the stereotypers. We hope to have a largely increased list of reports prior to the middle of August. See particulars asked for on page 224, July *Agriculturist*.

Hancock Co., Ill., June 18. George W. Powell.—Much wheat sown, prospect improving. Hessian fly injurious, more numerous than ever known in this county. Much late wheat sown, and consequently a great chance for the midge. Oats but little sown by reason of wet Spring. Corn planted late, but in good condition. Grass more promising than for many years. Fruit generally killed by frost.

St. Joseph Co., Ind., July 2, 1861. H. E. Hurlburt.—Wheat one fourth more sown than last year. Crop not as good—damaged by insects and by cold, wet Spring—harvest will commence next week. Corn, large breadth planted—put back by cold wet weather, has come forward rapidly last 2 weeks; looks quite promising. Hay: clover short, owing to drouth, now cutting, crop light. "Prairie" grass good, not cut till August, promise large. Potatoes, crop large, look well. Fruit much damaged by late frosts and long continued East wind. No peaches, no plums, few common cherries. Fair amount of apples.

McDonald Co., Mo., June 15. Henry H. Fox.—Wheat is good; it is now being cut. Corn is very small, but looks well generally. We had a very wet Spring—rivers higher than for several years. Provisions of all kinds high and scarce, except beef, which is cheap.

Minnesota: Olmsted Co., July 4.—F. Johnson, P. M., writes: "I have been through this and several adjoining counties, and think the Wheat crop will not average over two thirds of last year, when it was 25 bushels to the acre. Yet, say to our friends of the Mark Lane Express, that Minnesota will contract to supply England with one half of all the wheat wanted next year; and with one year's notice this State will take the whole contract, provided our flag is honored, and neutrality maintained. While our young men have gone to the field of honor, our young ladies have volunteered for the harvest field; and it is only by their aid that we shall be able to save our crops from returning to the soil. Say to Tim Bunker Esq., that some of his family live 'away out west,' and they are doing their best to raise 'breatworks.'—Bye the bye, they expect to raise another Bunker Hill, with 'Jeff. Davis' on the top as a 'scare-crow' to all future traitors."

Jackson Co., Oregon, June 1st. R. A. Gray.—The crops look fine; I think we shall have one third more grain in this County the present year than for any previous season.

Carroll Co., Ill., July 9, 1861. M. J. Stephenson.—Wheat somewhat more than the usual amount sown. That on new ground is generally good, other fields somewhat injured by rust. Corn, not as forward at same date last year, owing to cold, late Spring. Farmers have finished plowing through it three times, and are about to commence the fourth. Potatoes look well; not so many planted as last year. Grass is fine. Wheat 40 to 45 cts. per bushel; Corn 10 cts.; Butter 5 to 6 cts. per lb.

Washington Co., Ky., June 28. J. D. Wayne.—Wheat, large amount sown, now being harvested, and the finest

grain and largest yield ever known in this part of the State. Rye, ditto. Corn, large area planted, but owing to drouth, does not look promising. Oats will be short. Hay much injured by the Army worm in the latter part of May and first of June, but will make over half a crop. Blue grass is pretty well burnt off, but clover is fine. Potatoes promise fair. Fruit in great abundance. Tobacco, which is not much cultivated here, looks badly.

Ohio Co., Va., July 4. John Caldwell, jr.—Wheat, about the same surface sown as last year; one-third winter-killed or destroyed by Hessian fly; the remainder of good quality and now ready for the reaper. Corn, large area planted, but is of small growth for the time of year. Oats headed out about six inches high; will be a light crop. Hay, not half a crop. Pastures suffering from drouth; only one light rain in June.

Erie Co., O., July 12. Delos C. Ransom.—Wheat great breadth sown, much on stubble ground. Just beginning to harvest. Crop medium, from 15 to 20 bushels per acre. A few weevils; the Hessian fly caused some crinkling of stalks. Corn, considerable planted. Owing to late Spring, and dry weather in June, many fields are small and suffering. Taking the County together, yield estimated at about 30 bushels per acre. Oats, small area sown—crop medium. Buckwheat somewhat generally sown. Recent rain helped it much. Potatoes injured by heat.

Rockland Co., N. Y., July 14. I. Wilcox.—Corn backward, with here and there a good field. Rye good. Oats short but heavy headed. Hay rather short. Potatoes promise but light returns. Fruit generally scarce.

Orleans Co., N. Y., July 15. P. Ferris.—Wheat, one-third more sown than last year, Winter wheat poor; the yield will not be over half, perhaps not over one-third to the acre what it was last year; much injured by freezing in the month of March. Spring wheat, early sown good, late sown injured by the drouth in June; as was also barley and oats. But little barley sown. Oats much less than usual sown, and a considerable share put in late—prospect not over half a crop. Corn poor. Potatoes better, but injured, as well as all other Spring crops, by the June drouth. But little haying done yet; timothy good; clover badly killed out. Fruit: no peaches or pears to speak of; a light crop of apples and cherries.

Washington Co., N. Y., July 15. William Forbes.—Winter Wheat; little sown, but looks well....Spring Wheat, looks poor....Rye, good, more than an average crop. Oats will not be half last year's yield. Corn looks bad; it is very late, and badly injured by worms. Potatoes promise well. Fruit, scarce; very few apples, no cherries or plums. Hay, a light crop; the past two seasons have been very dry and materially injured the roots, and put our meadows back.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
 New-York, Friday Morning, July 19, 1861.

The following table presents a condensed view of the business transacted for a month past, these figures being carefully compiled from our daily notes made in the markets.

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	472,000	3,105,000	1,132,000	188,000	54,100	477,000
24 days last month	578,400	3,630,000	3,197,000	36,430	60,600	555,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	396,000	4,475,000	1,861,000	133,500		
24 days last month	386,500	4,102,000	3,304,000	40,700		

The receipts of Breadstuffs, since our last, have been less extensive, while the sales of all kinds, save Corn, have been decidedly heavier. Early in the month, the market was depressed by unfavorable news from Liverpool, the scarcity of vessels here, and the rapid rise in rates on freight to European ports, which seriously impeded the export movement. The result was a very material reduction in prices, which had the effect of discouraging parties in the interior from sending forward their supplies of produce freely. The arrivals at this port, therefore, fell off considerably, and as the commercial advices from England by the latest steamers were more favorable, and shipping accommodation became more abundant, the demand increased and prices rallied. During the past three days, the tendency has been decidedly upward, and the principal holders have not been eager to sell, as they have been anticipating a further improvement in the market. The available stock in the hands of the receivers is moderate for the season, and the low rates recently current have made holders rather indifferent about selling, at present. The crops in most parts of our own country are reported as generally very satisfactory. Three or four small lots of the new crop of Wheat, from New-Jersey and Delaware, have been received and sold to the City millers at \$1.15 to 1.25 bush. There are

complaints from some portions of the country of injury to the new Spring and White Wheat from the fly and rust, but this is sectional. The crop is late, and therefore, in more danger than in ordinary seasons; still there is a prospect of an average yield, if not of an abundant harvest. Much of the Corn coming to market is unsound, heated, or damp, altogether unfit to ship, which retards the filling of export orders greatly. The Rye that is arriving from the West, and from Canada, is very poor, and badly cleaned, so that it does not bring anything like as high prices as that from the State of New-York; the difference being about 20 cts. per bushel, especially on Western Rye. Barley is out of season, and not sought after, even by brewers. Oats are plenty and are now coming into more request. The stock of Cotton has been reduced to about 25,000 bales, and prices have advanced, but, at the close, business was restricted, the demand being mainly from spinners. There has been a very brisk export inquiry for Domestic Tobacco at buoyant rates; stocks are now very light. Rice, Seeds, and Hemp, have been less active, but firm. Hay, has been mainly inquired for by local buyers, and for city use, and has ruled low, as there is an abundant new crop. Hops have been in good request at firmer rates. Wool has been dull and unsettled, in this market. In the interior, buyers are governed now by surrounding gloomy prospects of the manufacturing interest, rather than by theories that can be woven out of speculations regarding coming events. A limited amount of the new clip has been bought at prices ranging from 20c. to 30c. Extra fine fleece that sold last season at 45c. would not now bring over 30c. So far, all that has been offered at these figures has been taken; but buyers are quite as cautious in their movements as sellers are reluctant to accept the figures, and the market is unsettled. Groceries have been quite brisk at much higher prices. Other branches of trade have exhibited no important changes.

CURRENT WHOLESALE PRICES.

	June 18.	July 10.
FLOUR—Super to Extra State	\$4 50 @ 4 95	\$3 90 @ 4 50
Superfine Western	4 45 @ 4 60	3 85 @ 4 00
Extra Western	4 42 @ 4 55	4 15 @ 4 25
Fancy to Extra Genesee	5 00 @ 5 25	4 55 @ 4 75
Super to Extra Southern	5 05 @ 5 10	5 10 @ 5 25
Rye Flour—Fine and Super.	3 00 @ 4 00	2 50 @ 3 50
CORN MEAL	2 25 @ 3 10	2 25 @ 3 00 1/2
WHEAT—Canada White	1 40 @ 1 55	1 18 @ 1 25
Western White	1 32 1/2 @ 1 60	1 15 @ 1 30
Southern White	1 40 @ 1 70	1 20 @ 1 35
All kinds of Red	50 @ 1 30	75 @ 1 12
CORN—Yellow	46 @ 50	48 @ 50
White	46 @ 56	48 @ 52
Mixed	36 1/2 @ 45	39 @ 45
OATS—Western	28 @ 31	28 @ 31
State	28 @ 31	28 @ 31
RYE	68 @ 68 1/2	46 @ 67
BARLEY	50 @ 65	Nominal.
HAY, in bales, per 100 lbs.	45 @ 75	45 @ 70
COTTON—Middleings, per lb.	14 @ 15 1/2	15 1/2 @ 16
ICE, per 100 lbs.	42 @ 6 50	5 00 @ 6 00
HOPS, crop of 1890, per lb.	12 @ 22	16 @ 26
FEATHERS, Live Geese, p. lb.	Nominal.	32 @ 38
SEED—Clover, per lb.	None selling.	None selling.
Timothy, per bushel	5 1/2 @ 7	5 @ 6 1/2
SUGAR—Brown, per lb.	4 1/2 @ 7	5 @ 6 1/2
MOLASSES, New-Orleans, p. gal.	30 @ 35	35 @ 40
COFFEE, Rio, per lb.	10 1/2 @ 14	11 1/2 @ 14 1/2
TOBACCO—Kentucky, &c., p. lb.	4 @ 15	4 1/2 @ 16
Seed Leaf, per lb.	2 1/2 @ 25	4 @ 26
WOOL—Domestic fleece, p. lb.	28 @ 55	25 @ 45
Domestic, pulled, per lb.	22 @ 38	18 @ 35
TALLOW, per lb.	8 1/2 @ 9	8 1/2 @ 9
OIL CAKE, per ton	28 00 @ 34 00	Nominal.
PORK—New Mess, per bbl.	15 50 @ 15 75	15 50 @ 15 62 1/2
Prime, new, per bbl.	10 50 @ 10 75	10 00 @ 10 25
BEEF—Repacked mess	8 75 @ 10 25	8 25 @ 10 25
LARD, in bbls., per lb.	8 1/2 @ 9 1/2	8 @ 9
BUTTER—Western, per lb.	9 @ 12	6 @ 12
State, per lb.	10 @ 15	8 @ 14
CHEESE	3 @ 8	3 @ 7
EGGS—Fresh, per dozen	12 @ 14	13 @ 14
POULTRY—Fowls, per lb.	12 @ 14	12 @ 14
Chickens, Spring, per pair	12 @ 14	12 @ 14
Turkeys, per lb.	12 @ 14	12 @ 14
Wild Pigeons, per doz.	1 00 @ 1 25	1 00 @ 1 25
Dried Apples, per lb.	2 @ 3	2 1/2 @ 4 1/2
Dried Peaches, per lb.	10 @ 12	10 @ 12
Dried Cherries, pitted, per lb.	10 @ 11	10 @ 12
Dried Raspberries, per lb.	10 @ 11	10 @ 12
POTATOES—Merced, n. p. bbl	2 37 @ 2 60	2 00 @ 2 12
RYE, new, 7 bbl.	2 00 @ 2 12	3 @ 6 1/2
RASPBERRIES, per 1/4 qt. box	12 1/2 @ 13	12 1/2 @ 13
CURRENTS, per lb.	4 50 @ 5	4 50 @ 5
BLACKBERRIES, per qt. box	4 50 @ 5	4 50 @ 5
HUCKLEBERRIES, per bushel	4 50 @ 5	4 50 @ 5

Exports from New-York, January 1, to July 17.

	1860.	1861.
Wheat Flour, bbls.	606,975	1,608,305
Rye Flour, bbls.	4,646	6,072
Corn Meal, bbls.	51,781	58,449
Wheat, bushels	3,121,725	10,711,805
Rye, bushels	1,753,725	4,974,185
Corn, bushels	100	190,034
Barley, bushels	8,250	1,000
Oats, bushels	98,764	142,464

Export of Breadstuffs to Great Britain and Ireland, from Sept. 1, 1860.

From	To Date.	Flour, bbls.	Wheat, bu.	Corn, bu.
New-York	July 12, 1861.	1,347,657	17,825,683	6,236,927
New-Orleans	June 14, 1861.	179,427	66,767	1,464,267
Philadelphia	July 4, 1861.	173,894	1,433,803	605,628
Baltimore	July 4, 1861.	127,031	947,346	833,300
Boston	July 5, 1861.	96,081	13,032	44,100
Other Ports	June 28, 1861.	128,470	7,233,192	15,451
Total		2,232,560	22,523,023	9,360,573
To about same period, 1860.		442,245	3,383,369	2,063,592
To about same period, 1859.		91,230	415,800	342,013
To about same period, 1858.		1,164,148	5,847,159	3,274,676

From	To Date.	Flour, bbls.	Wheat, bu.	Corn, bu.
New-York	July 2, 1861.	54,276	1,760,489	41,023
Other ports to latest date		7,796	9,073	3,042

Breadstuffs Trade at Milwaukee.

	Receipts.		Shipments.	
	Flour.	Wheat.	Flour.	Wheat.
Week ending July 8.	7,410	168,999	16,445	141,348
Same week last year.	1,988	36,249	10,276	37,500
Since January 1.....	224,366	4,881,872	315,538	5,215,698
Same time last year.	111,071	1,964,837	241,063	1,734,671

Receipts of Breadstuffs at Chicago, Jan. 1 to July 9.

	1861.	1860.	1859.
Flour, bbls.	613,165	229,022	210,690
Wheat, bushels	5,232,454	1,848,202	1,422,239
Corn, bushels	9,433,364	9,233,009	2,660,642
Oats, bushels	511,982	612,978	347,360
Rye, bushels	227,427	61,781	25,438
Barley, bushels	306,889	190,356	120,469

The following table shows the total receipts of Grain (including Flour) in Chicago, from the 1st of January till the first of July, for a series of years:

	Bushels.		Bushels.
1861.....	17,536,763	1857.....	6,244,092
1860.....	12,399,690	1856.....	7,418,032
1869.....	5,386,669	1856.....	6,887,596
1858.....	10,270,987		

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been fully supplied with heaves during the past 5 weeks, the average being 4,141 per week. This is 100 more than for the corresponding season last year, and prices are fully 1 1/2 c. per pound less. There has been a decline of 1c. since last month. Trade is dull, it being impossible to dispose of all the cattle offered during the past fortnight. Prices now range from 8 1/2 c. to 8 3/4 c. for choice bullocks, 7 1/2 c. to 8 c. for fair to good, and 6 c. to 7 c. for poor, all kinds averaging, July 17th, 7 1/2 c. per lb., estimated dressed weight.

VEAL CALVES.—Receipts are falling off, as the season advances, although the market was overstocked at the last sales day. Receipts average 901 per week for the past 5 weeks. Prices are lower than last month, nothing bringing over 4 1/2 c. per lb. live weight, and very good veals selling for 4c. and so down to 3c. for common calves. Most of the stock sold at 3 1/2 c. to 4c. which is lower than we remember to have previously reported it.

SHEEP AND LAMBS.—These are coming in freely, the weekly average for 5 weeks past being 10,919, while 12,300 were on sale at the last market. Prices are low and trade generally dull. July 17th, sheep brought prices equivalent to 3 1/2 c. to 3 3/4 c. per lb. live weight for good sheep—a few extra fat ones 4c.—and 3c. for thin common stock. Per head they ranged from \$1.50 to \$4. Lambs sold at 5 1/2 c. to 6 1/2 c. per lb. or \$2 to \$4 each.

LIVE HOGS.—Receipts about as last month with a lighter demand, so that prices have gone down materially. Hogs sold lower July 9th, than we had ever seen them previously, good corn fed hogs bringing but 3 1/2 c. to 3 3/4 c. At last market they advanced near 4c. Corn hogs selling at 3 1/2 c. to 4c. and still fed at 3c. to 3 1/2 c. live weight. Weekly average for the past 5 weeks, 5,373.

The Weather. Since our last report, there has been a decided change for the better. Instead of the cold, wet and backward weather then reported, we have had a hot, comparatively dry "spell," and the various unharvested crops are in a good degree of forwardness. We have seldom had finer weather for securing hay and grain, than the first two weeks of July, and corn has made a rapid growth, and promises a fair yield, save in localities where the Army worm or other insects have been troublesome. —OUR DAILY WEATHER NOTES, condensed, read thus: June 19, 20, clear, fine—21, showery—22, cloudy—23, clear, fine, shower at night—24, 25, fine, warm—26, clear, fine, shower at night—27 to 30, warm, clear, growing weather. —July 1, clear, heavy rain at night—2, 3, clear, cool—4 to 6, clear and warm, with light rain on night of 6th—7 to 12, "heated term," the mercury reaching 94° in shade, and 130° in sun, on the 9th, light showers at night of 9th and 10th—13, clear A. M., cloudy P. M., with a little rain at night—14, cloudy A. M., light rain P. M.—15, clear, fine, but cooler—16, clear, warm, welcome rain at night—17, clear, moderately warm growing weather—18, 19, clear and warm.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain—s, snow.]

JUNE.											
1.	56	7.	56	13.	64	19.	59	25.	60		
2.	61	8.	61	14.	60	20.	64	26.	63		
3.	59	9.	60	15.	65	21.	62	27.	67		
4.	64	10.	62	16.	73	22.	65	28.	69		
5.	57	11.	66	17.	63	23.	65	29.	66		
6.	50	12.	65	18.	59	24.	61	30.	53		
Average									62		
JULY.											
1.	64	4.	63	7.	68	10.	72	13.	62		
2.	60	5.	66	8.	71	11.	68	14.	64		
3.	58	6.	64	9.	74	12.	63	15.	60		

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Beyond all doubt or controversy, the circulation of the American Agriculturist to regular subscribers, is many thousands greater than that of any other Agricultural or Horticultural Journal in the World, no matter what its character, or time or place of issue. The publisher is ready at any and all times to substantiate this statement.

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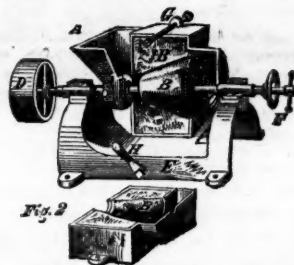


Fig. 2

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TO WHOM IT MAY CONCERN.

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For \$1 we will send by mail, post-paid, and care-
fully put up in cotton and oiled silk

6 Oscar or Wizard of the North;
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GLASS FRUIT JARS, WITH A SMALL SHOULDER ON THE INSIDE OF THE NECK.

Quart Jars with Corks.....	\$1.25 per Dozen.
Pint Jars do.	90 cts. do.
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GIBB'S PATENT CYLINDER PLOW.

The lightest draft and best sward turning plow.
For the result of a trial of this with the "Eagle"
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No. 1, do. do. 10.
No. 2, do. do. 11.
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With Wheel, \$1 extra. With Skim Attachment,
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1 Ayrshire Bull, 3 years old, thorough-bred, by
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12 South Down Sheep.

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QUAKER SALVE, unsurpassed for cuts, bruises,
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FOOTE'S PATENT UMBRELLA STAND.

The whole is neatly japanned and ornamented
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See *Agriculturist*, October, 1860.

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JOHNSON'S CAMP STOOL.

Very convenient for Hotels, Pic Nic Parties, and
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Fig. 1—"GIANT WHEAT."

The above engraving, prepared for our March number, is an exact copy of one appearing in the English journals. Almost incredible accounts of the productiveness of this Wheat were given, and we sent to our English correspondent to procure a quantity and forward for our distribution. Two bushels were obtained at a fabulous price, and we have been distributing it in small parcels for experiment. We should have sent the whole of it away, had we known just how many parcels would be called for, and how much could be put in each. The little now remaining we shall distribute, with another variety described below, as premiums. We do not credit the half that is said of this wheat, though the accounts are given in a leading agricultural journal, published where the wheat is grown, and where they might be easily exposed, if unreliable. But if this wheat prove a fourth part as valuable here as it is represented to be in England, it will be decidedly worthy of cultivation. The experiment will cost but little, and is worth a trial. If successful, those who raise the first seed in quantity will be ahead in this market.



Fig. 2—"HALLETT'S PEDIGREE NURSERY WHEAT."

We present in Fig. 2 a fac simile of an engraving of another variety of wheat, which was brought before the public in England, last Autumn. This engraving was placed beside a glass case of the heads, at the Show of the Smithfield Club, last year, and the public invited to compare them, and no one disputed the accuracy of the representation. Mr. Hallett states that a single kernel planted, produced 39 heads, containing 2145 kernels. As soon as we saw the statements concerning this Wheat, we at once sent for a quantity of it to add to our free Seed Distribution, notwithstanding the enormous price asked for it, but our Correspondent could only get a small lot. There was not enough to offer in the general distribution, and it was too costly for that purpose. We shall, therefore, reserve a little for our own experiment, and offer the rest that we



Fig. 3—AN ORIGINAL HEAD.

have, as a special premium, as named below. We can only say of this, as we have said of the "Giant Wheat," above, that the claims put forth for it are too large to fully credit; though it would seem to be of unusual value, and it will cost little to test it here. Mr. Hallett claims to have "bred up" this wheat from the size shown in Fig. 3, by careful selections from year to year. Those who obtain the specimens of this, or the giant wheat, or both, will do well to plant the kernels separately, in drills, in a good soil, to the end that as large a yield as possible may be secured, should these varieties prove worthy of future cultivation. Plant or sow at the usual time of putting in Winter wheat.

THE WHEAT PREMIUM.

To any one who will now procure and forward a new subscriber to the *Agriculturist*, at \$1 a year, we will send (post-paid,) a parcel of each of the above varieties of wheat—one parcel to contain, say about 400 kernels of the "GIANT WHEAT," and the other about 600 kernels of HALLETT'S PEDIGREE NEW WHEAT. This amount of seed (1000 kernels,) will produce a large supply for another year.

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The first, and most perfect, is the Portfolio Cover, resembling a neat book cover, provided with cord, needle, and India rubber spring, by means of which the numbers are quickly fastened in, almost as firmly as if full bound. The covers are stamped, and have the name of the paper printed on. When one volume is complete, the numbers can be stitched together in a volume, and the cover used for the next volume. It is the perfection of a newspaper file, combining the advantages of an adjustable file, and a bound cover. Prices, 60 cents, 75 cents, and \$1, according to the material, style, etc. If sent by mail, 21 cents extra for postage.

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Feast's Elmore, very large and attractive, per doz. 50 cts.
Sir Harry, a very large variety, for amateurs, per doz., 50 cts.
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Publisher's Notices.

To Subscribers in Great Britain.

We have an increasing list of subscribers to the *American Agriculturist*, in England, Scotland, Ireland, and Wales, and to accommodate such we will answer that hereafter subscriptions for all parts of Great Britain may be sent to JOHN G. WAITE, Seedsman, 181 High Holborn, London, which will save the trouble and expense of remitting single names across the ocean. Terms, to subscribers in all parts of Great Britain, five shillings, sterling per year, which covers ocean postage to be prepaid here. The papers will be mailed direct to the Post Office address of each individual.

EXTRA BOOK-PREMIUMS.

[For other Business Items, see page 252—For valuable Seed Premiums, etc., see page 255—For Standing Premiums, see page 218, July No.]

Our "Extraordinary Premiums" closed July 1st, but owing to depression in the book business, we have been able to secure a few valuable works at such prices, that we can offer them, for the time being, on the terms named below. (N. B. Two new subscribers for half a year, say from July to December, inclusive, at 50 cents each, may be counted as one new subscriber at \$1.)

This is an excellent opportunity for all to secure good books at a very trifling outlay of time and effort.

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For 16 New Subscribers at \$1 each, we will present that excellent, new implement, the **Hydropult**, which is very useful for throwing water to extinguish fires, water gardens, wash windows, carriages, etc. (See page 91, March No.) Price \$12. It weighs but 8 lbs., can be packed in small compass, and go by express at little expense.

Extra for August.

To meet a very general want, especially in parts of the country remote from Nurseries and Commercial Gardens, we have made arrangements to send out as **SPECIAL PREMIUMS**, parcels of the

BEST STRAWBERRY

PLANTS, FREE BY MAIL.

The Plants will be of first quality, the very best that can be obtained (including all we can spare from our own grounds). They will be packed in the best possible manner—in oiled silk, or wooden boxes, or tin cases, according to their destination—and will be sent paid through by Mail or Express. They will be forwarded at the earliest date in September when the weather will allow of their going to the different points to which they are to be sent.—(It will be our pleasure, as well as our interest to send them in such a way as to give entire satisfaction). The Premium is designed more especially for the remoter regions of the country, but is not limited to any particular section. (Persons living on the Pacific Coast, in Utah, New Mexico, and at other distant points, who may chance to send in too late for the plants to go, this year, can have them forwarded at the earliest practicable date in the Spring.)

Conditions of the Premiums.

I. To any person now forwarding One New Subscriber to the *American Agriculturist*, at \$1 a year (to begin in Jan. 1st, or July 1st, 1861) we will present One Dozen Plants of **Triomphe de Gand Strawberry**, to be forwarded free as above stated. This variety we think the best, but when preferred, we will send instead, a dozen plants of the *Wilson's Albany*,

OR

II. To any person now forwarding two (or more than two) New Subscribers to the *American Agriculturist*, at \$1 a year, (to begin Jan. 1st or July 1st, 1861) we will present for each name, Fifteen Plants of the **Triomphe de Gand Strawberry**, (or the *Wilson*, if preferred) to be forwarded free as above.

N. B.—Where there are two or more subscribers, the premium may be part *Triomphe de Gand*, and part *Wilson*; and for premium of four or more to be sent in one parcel, we will add a few plants of one or more other good varieties from our own garden.

N. B.—The names to be sent in as soon as obtained, and the premiums will be entered to be forwarded at the appropriate season, as stated above.

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All business and other communications should be addressed to the Editor and Proprietor.

ORANGE JUDD, 41 Park-Row, New York City.

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